LOGY DEPT.

Textile World

OCTOBER, 1941

FIRE—Stronger Defenses Needed Now

SEE PAGE 70

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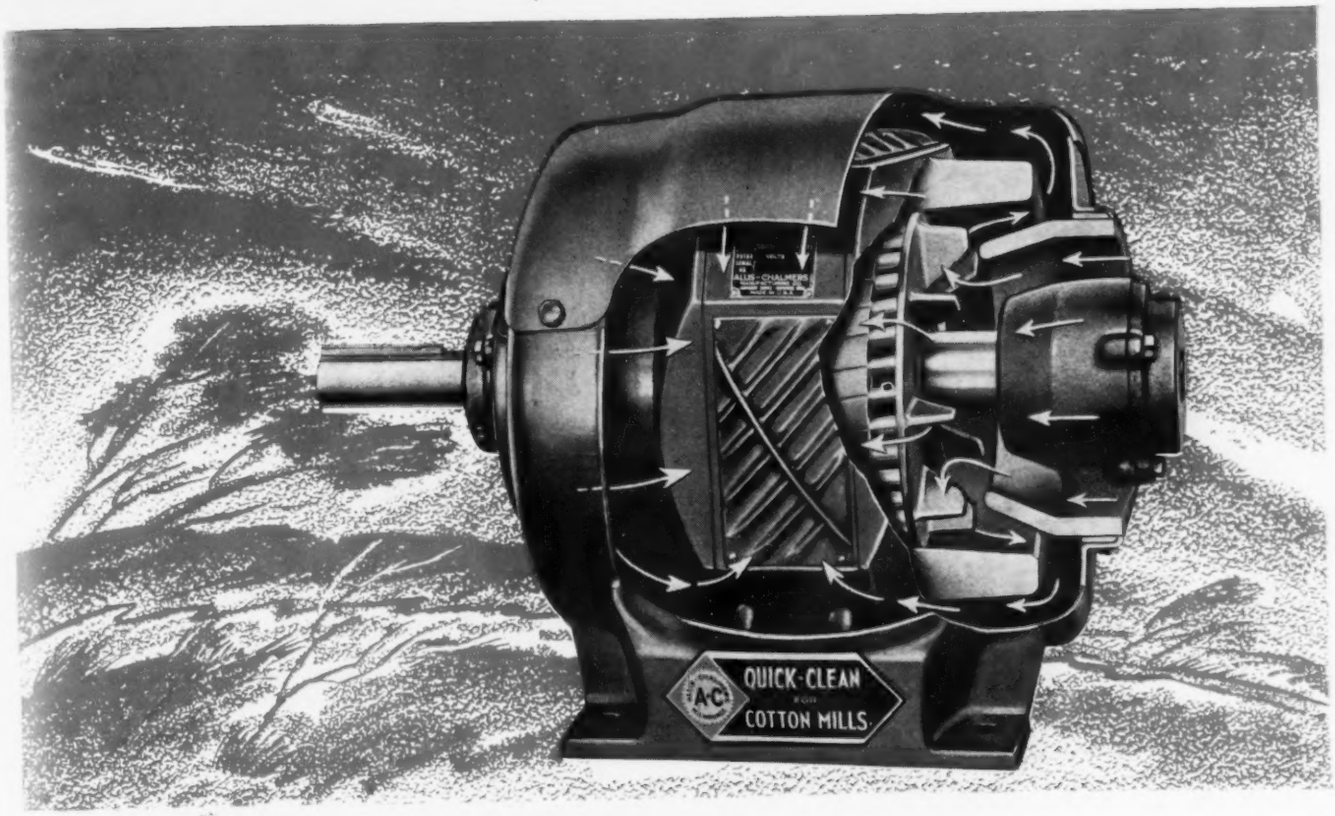

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"Buy a Bale of Cotton"

Comments by Henry G. Lord

I wonder how many recall that slogan of 1914.

Cotton was selling at about 6¢ a pound. There was a big stock. It looked as if the South was going broke; nobody had thought of a parity plan or Government loans. But the idea was seriously proposed that if thousands of people would buy a bale of cotton, it would save the South from ruin and prove to be a good investment. I think the idea had the endorsement of President Wilson.

1913 and early 1914 had been good years. In October 1913 and again in May 1914, cotton was selling at 14½¢ a pound. Then came the slump! When war was declared in Europe in August 1914, the Cotton Exchange was closed; cotton was offered at 6¢ a pound and few had courage to buy.

I recall one New Bedford manufacturer, however, with whom I was playing golf one weekend, who said to me, "If I could close my mills and fill them with as many bales of cotton as they would hold, at 6½¢ a pound, I would make more money in the next five years than I can ever make in running the mills." And he was right! In January 1915 cotton had gone to 8½¢; in October to 12¢ and in November 1918, spot cotton was selling for 30¢ a pound and in 1920 it went to 42¢. Of course, he didn't do it, although I believe he did have enough courage of his convictions to clean up a million or two.

I do not recall what happened to the "ceiling" that Bernard Baruch was talking about the other day in Washington, but if there was any ceiling on cotton, it was a high one or else it broke through the top.

In the early days of the last war, and before the United States went in, textile manufacturers did not get very excited over raw materials. I can recall that the wool growers of the West had hoped to sell large quantities of wool to Germany in the early stages of the war and, when the British embargo began to take effect, wool sold off. It was not until 1916 and 1917, when the demand for equipping the new American armies became so great, that the real boom began, which continued till 1920, when fine scoured territory combing wool touched $2.00 per pound.

There was a big demand for cotton linters and waste, which threw the prices for those commodities all out of proportion to the prices of staple cotton.

It was estimated that every time Germany shot off a big gun, it used a bale of cotton from which gun cotton was made, and that when a battleship fired a salvo, twenty-five bales of linters and waste were shot away. The Germans are not using cotton linters now for the manufacture of explosives; they have substituted wood pulp, but cotton linters are still used in the manufacture of American powder, and it takes about six-tenths of a pound of cotton for a pound of powder. And Canada also still uses cotton, but is experimenting with pulp, I am told.

There will be a lot of cotton going into explosives, but with the present stock on hand, I do not think we have to worry.

As I look back now on the cotton manufacturing situation prior to the war, and before the big migration of New England mills to the South, I get the impression that an important factor in that migration was the big cotton mill building boom of 1908 and 1909, when more than $70,000,000 were spent for new mills, mostly in the South. The mills were not built to satisfy a legitimate demand, but because some city or town wanted one. These new mills were then modern in design and equipment, and not only took the profits from the older mills, but overproduction resulted in one of the periodic depressions of the cotton mill business.

Soon after that the war broke out, and every mill in the country, old or new, could make money. And after the war, instead of the expected slump, came the biggest cotton mill boom of all, in 1919 and 1920, followed by the "Blitzkrieg" of 1921, and the big migration.

The conflict between modern and obsolete equipment, low cost and high cost mills, was on again in earnest and has continued ever since. The low cost group skims off the cream and the other group, in normal times, tries to survive on skimmed milk, spiced with the hope of another boom.

"Who's Who" when *this* boom is over?

HENRY G. LORD, *founder of Textile World and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.*

CONTENTS

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Management

Looking Backward to Look Forward (Editorial) 65
From the Editor's Mail Bag 66
Priorities: Here Are the Facts About Your Greatest Problem . . . 67
Research Plan Takes Another Step at Washington Conference . . 69
Hosiery Men Not Cheerful Despite Hopeful Speeches 74
Combed Yarn Spinners Talk It Out with Government 76
QM Buying for 1,500,000 Men 77
N.A.C.M. Holds Annual Meeting in Boston 78
QM's 1943 Budget May Be for Larger Army 82
Carded Yarn Group Meets 84

Methods

Styling Men's Wear Suitings for Fall 1942 72
Textile Patents of 400 Years Ago 84
Sun Spot Theory on Difficulties in Manufacturing 85
Mill Laboratory Gives Results in High Quality and Uniformity . 86
Fabrics for Defense 88
Knitted Overcoatings—Effect of Stitch Differences 89
Reconditioning Printing Rollers 90
Analysis of Covered-Rubber Yarns 92
Georgia Executives Discuss Mill Problems 93
Fixing Hosiery Machines — Circular and Full-Fashioned . . . 95
Preboarding Nylon Hosiery — Temperature and Pressure . . . 115
Spinning Room Practice — Remedy for Creel Troubles 116
A Leaf from a Throwster's Notebook 117
Loomfixers' Manual — Cotton 119
Loomfixers' Manual — Rayon and Silk 120
Staple Cotton Fabrics 122

Merchandising

Price Ceilings and Rayon Rules from Washington 79
Silk and Hosiery Situation 80
New Fashions, Sans Paris, Are Strictly U.S.A. 81
"Ante-Bellum" Prints from Old Store 83

Mill Engineering

Civil Protection to Cut Mill Fire Hazard in Emergency 70
Textile Equipment News 97

Men

Criticism vs. Cooperation (Pete & Bill) 113
Textile Personalities 123

DEPARTMENTS

Textile Equipment News..... 97
News of the Month..... 124
New Publications..... 102
The Overseers' Corner..... 113
Questions and Answers..... 118
New Machinery and Processes..... 97
Textile Calendar..... 130
Leading Editorial..... 65
New Dyes and Chemicals..... 102
News of Suppliers..... 104
Free for the Asking..... 110
News About Men..... 142
Textile Mill News..... 154
Overseers' Practical Helps..... 114

FOR CONTENTS BY INDUSTRY BRANCHES, SEE NEXT PAGE

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IN THIS ISSUE

ADVERTISING PAGES REMOVED

CONTENTS BY INDUSTRY BRANCHES

NATIONAL DEFENSE

Priorities: Here Are Facts About Your Greatest Problem ... 67
Reducing Mill Fire Hazard in Present Emergency ... 70
Combed Yarn Spinners Talk it Out With Government 76
QM Buying for 1,500,000 Men ... 77
QM's 1943 Budget May Be for Larger Army ... 82
Fabrics for Defense ... 88
QM Meets with Business Papers ... 136

GENERAL

Research Plan Takes Another Step at Washington Conference ... 69
Fashions 1941, Sans Paris, Are Strictly American ... 81
Textile Patents of 400 Years Ago ... 84
Sun Spots and Textiles—A New Theory ... 85
Analysis of Covered-Rubber Yarns ... 92
Centrifugal Spinning and Twisting ... 98
Criticism vs. Cooperation ... 113
Textile Personalities ... 123
News of the Month ... 124

COTTON

N.A.C.M. Annual Convention ... 78
Combed Yarn Men Talk it Out With the Government 76
Price Ceiling Developments ... 79
Carded Yarn Group Meets ... 84
Sun Spots and Irregularities in Production ... 85
Mill Laboratory Gives Results in Uniformity and Quality ... 86
Georgia Executives Discuss Mill Problems ... 93
Yarn Conditioner ... 97
Variable Sheave ... 99
Spinning Room Practice—Remedies for Creel Troubles ... 116
Weight of Yarn for Wide Sheeting ... 118
Loomfixers' Manual—Cotton ... 119
Staple Cotton Fabrics ... 122

WOOL

Styling Men's Wear Suitings for Fall 1942 ... 72
Fabrics for National Defense ... 88
Knitted Wool Overcoatings ... 89
Roller-Bearing Doffing Comb ... 98
Mending Room Piece-Rates ... 118

RAYON & SILK

Price Ceilings and Rayon Rules ... 79
The Rayon Allotment Situation ... 80
New Redrawing Machine ... 97
Rubber Quill Holder in Shuttle ... 98
Preboarding Nylon Hosiery—Pressure and Temperature ... 115
A Page from a Throwster's Notebook ... 117
Finishing Pile Fabrics ... 118
Loomfixers' Manual—Rayon & Silk ... 120

KNITTING

Southern Hosiery Association's Annual Meeting ... 74
Silk and Hosiery Situation ... 80
Knitted Overcoating—Effect of Various Stitches ... 89
Fixing Hosiery Machines—Circular ... 95
Fixing Hosiery Machines—Full Fashioned ... 96
Preboarding Nylon Hosiery—Temperature and Pressure ... 115
Knitting Needles Break ... 118

PROCESSING

"Ante-Bellum" Prints from Old Store ... 83
Reconditioning Printing Rollers—Use of Grinding Wheels ... 90
Heavy Duty Calender ... 97
New Dyes and Chemicals ... 102
Book Gives Tips on Screen Printing ... 102
Finishing Pile Fabrics ... 118

IN THE NEXT

CHECK-UP CHARTS have come to be regarded by many textile men as important tools of management. Since 1937, when TEXTILE WORLD published its first mill check-up number, the textile industry has become increasingly "check-up" conscious. Today, with mills faced with the dual task of meeting Government demands for textiles and of supplying normal civilian requirements, they must operate at the highest possible efficiency. Mills in every branch of the industry are finding that check-up charts are aiding them to reduce waste, to maintain sufficient stocks of raw materials and supplies, to control costs, to reduce machine stoppages, and to increase production. Through the cooperation of textile mills throughout the country, TEXTILE WORLD will reproduce in its Mill Check-Up Issue, next month, a large selection of check-up charts actually in use in cotton mills, woolen and worsted mills, rayon throwing and weaving plants, knitting mills, and dyeing and finishing plants. Use of these charts will enable textile-mill executives to check up in their own plants to see just what has been done and what still needs to be done to bring them to peak efficiency and keep them at that point.

In addition to this featured section, defense problems as discussed at several association meetings will be reported, and other timely articles will appear.

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

Looking Backward to Look Forward

TWENTY-FIVE YEARS AGO, this writer joined TEXTILE WORLD. He is going to take a quick look back over that quarter-century, on this page this month, for the sole purpose of trying to discern some pattern which may be a guide to the textile industry in planning for the next quarter-century.

It is not easy. On casual examination, the pattern appears to be that of a crazy-quilt. Intermittently, there have been boom and depression, price spiraling and price chiseling, labor shortage and dismal unemployment. In the midst of a poorly clothed world, the products of textile mills have gone begging. During the same period, there was frantic expansion, with great new mills being built, followed by equally frantic contraction, with equally great mills being demolished to save taxes.

Every artificial method known to man—and many not hitherto known—have been tried in a great national attempt to conquer depression, unemployment, panic. And by and large, it all seemed to fall far short of its mark—and it took Hitler on the loose, rather than this artificial respiration, to bring prosperity back to this country, for the moment.

Where is there any pattern in all this?

ONE HAS TO LOOK DEEP to see it. The pattern has been actually one of progress. This industry is farther along a constructive path toward sanity than it was on the day 25 years ago when this writer wrote his first, and extremely inadequate, market report.

Here is what has happened: From a state of what might be called automatic prosperity, during which manufacturers sold what they made, and made pretty much what they wanted to, the industry has moved to a point where it makes what the consumer wants to buy, and only in such quantities as it can entice the consumer to absorb.

From a state where shareholders could count consistently on steady returns and on constantly increasing equity, the industry has moved to a point where the textile shareholder, except for certain rare and short boom periods, is the forgotten man.

From a state where the manufacturer had a very simple job of worrying mainly about production schedules and raw material prices, the industry has moved to a point where the manufacturer has to worry about merchandising, promotion, advertising, priorities, minimum wages, maximum hours, labor board rulings, higher taxes, social security, and a myriad of other complications practically unknown 25 years ago.

NOW, IT MAY NOT SOUND like progress to swap stability for instability and security for insecurity. It happens however that the norm is instability and insecurity. Periods like that of the record industrial growth from the latter part of the last century to the World War No. 1 are the exceptions, not the rule. The real job in industrial life is to make money the hard way. That's what the textile industry has been learning during most of the last quarter-century.

It has learned that selling goods is at least as important as making them; that cooperative action is essential if the individuals are to survive; that research is not a pleasant hobby but the life-blood of industry; that purchasing power of the masses is the only real source of corporate wealth; that low wages are a liability rather than an asset; that what was good enough for father is not necessarily, or usually, good enough for son.

It has learned that the only real defense against all the changes which beset industry nowadays is an offensive: a flexibility of mind and of heart which impels a manufacturer to *anticipate* those changes.

It has learned, we hope, that status quo is as dead as a door-nail; that any plans for the future based on expectation of things as they were 25 years ago, 10 years ago, or even one year ago, are not only wishful thinking, but stupid thinking. Conversely, any plans based on the hard, cold realization that this is a new world in which we live, represent a sound start toward a future which is going to demand all the intelligence, all the courage, all the realism that individuals and groups can muster.

Don't misunderstand us. We're not trying to pose as a Pollyanna. We admit that it would be pleasant to stay on in those "good old days" forever. But, since that is impossible, we feel that it is much more healthful to get toughened up to the point where one can meet and survive the "bad new days."

That conviction is what, in our opinion, the last quarter-century has brought to textile manufacturers, and that is why we feel hopeful about the next quarter-century.

Douglas G. Woolf

FROM THE EDITOR'S MAIL-BAG

"Just the Right Note"

JERSEY CITY, N. J.

Editor, TEXTILE WORLD:

I have just returned from a long vacation and find the TEXTILE WORLD of August to strike the right notes on "How a Textile Man Can Help Win the War" and the other on "Beat Hitler Now." The latter is particularly timely in view of the enormous propaganda that we have been subjected to by our own Fifth Columnists. Both France and England keenly regret having listened to their Lindbergh's, Wheeler's and Nye's, but our own regret should be that we did not take a stand when Germany began to re-arm.

Your readers might be interested to know that I was in Europe, and especially Germany, in 1920 and again in 1930, and have known ever since my student days on the Rhine in the middle 1890's that Germany was bent to pursue a ruthless and savage course in order to acquire industrial and political supremacy of the world. I have time without number argued that this principle would lead to the destruction of the better part of the Germanic races but the Prussians have never been willing to listen to reason. All their bellyaching about the Versailles treaty is so much Goebbelish propaganda and crazy vaporings of insane minds from which the German people themselves should be saved.

Most of my friends of German heritage are in full agreement that it is up to the Germans themselves to save their country from its present scourge, just as it is our own business to keep down the racketeers which the prohibition era and the late and present wars seem to have encouraged. The Germans have lost, temporarily I hope, all their civic and other rights.

HERMAN SEYDEL, *President*,
Seydel Chemical Co.

He's Madder'n Hell

MIDLAND, MICH.

Editor, TEXTILE WORLD:

Your reactions to the "incredible" half-year of textile activity burn me up. (TEXTILE WORLD, August, 1941, page 51.)

If your good friend Mr. Henderson happened to see your article, he could really make hay out of your statement "The industry can make money without an index of 184. It should . . . prepare for getting along without such an index." "This," Mr. Henderson could say in a public blast at the textile industry, "is just another example of how patriotic certain business men really are. 'Profits first, production for defense last' is their motto. While the boys in the Army sacrifice not only their 'profits' (wages) but also their homes and families and even perhaps, their lives, these greedy capitalists call for a cut in production to save their precious profits."

And what would you say in reply? That too much production will cause a depression later? Maybe true, but if Hitler wins due to a shortage of production, there won't be any "later." We've got to lick Hitler now, and take care of future problems later. And that job is to be done with production and more production, regardless of who gets hurt in the process.

It's a hell of an example to the drafted soldiers for a well-fixed business man to call for a cut in production for selfish reasons, while he drills without proper equipment at $21.00 per month. If this attitude of "getting mine while the getting is good" is so prevalent in the upper classes, how can you expect the lower classes to sacrifice their own interests for the good of all?

Briefly, Mr. Woolf, I'm madder'n Hell.

R. M. WILEY

Editor's Reply: Your letter would have been more helpful to me if it had been written in more temperate vein, and if you had read the item more carefully.

There was no slightest hint in the article of any advice against all-out production insofar as defense needs are concerned. Actually, however, the percentage of total textile production that has been going into defense channels during the last year has been relatively small. The bulk of the unprecedented demand for textiles has come from an inflated economic situation, and from speculative sources.

It was due to the recognition of the fact that demand from such sources could not keep up indefinitely, that the article was written. I have been in this business for 25 years and I have seen both employers and employees suffer because of the constantly recurring delusion that a temporarily high level of production can keep up indefinitely. As I stated in the article, all one has to do is to look back at 1937.

It is within the rights of an editor—in fact it is his most important duty—to warn his field if he sees prospects of a collapse in the future.—*Editor.*

And *from* the Editor . . .

NOW IS THE TIME for deeds, not words. The time-schedule for the debate between interventionists and isolationists has run out. The latter have always insisted that they would defend America to the utmost. Now is the time for such defense. The attacks upon American ships have been neither accidental nor anonymous. They have been intentional and Nazi.

The President of the United States has spoken. He has pledged the freedom of the seas in all zones affecting American defense. In the support of his stand, there can no longer be a dividing line between interventionists and isolationists. There can only be a unified American line, devoted to the defense of America and all that it stands for.

As the President has stated, we do not want a shooting war. *But neither do we want to dodge a shooting war at the expense of our freedom.*

We have served notice on the enemies of freedom. Now is the time to implement that notice.

These Men Aren't

WILMINGTON, DEL.

Editor, TEXTILE WORLD:

Your editorial and "The Editor Says" in the August issue are courageous and far-sighted. We need every gifted pen to arouse us to the supreme task of our time—to beat Hitler and his "Wave of the Past." THEODORE M. SWITZ

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

I want to take occasion to compliment you on the editorial "Re-establish The Trade Association Executive," in your September issue. It is good and to the point. EARL CONSTANTINE

MANVILLE, R. I.

Editor, TEXTILE WORLD:

I think you have hit the nail on the head in "Silk Stockings and Chewing Gum" in the September issue of TEXTILE WORLD. MAX C. MILLER

Priorities: Here Are the Answers

In 1, 2, 3 order we give you facts you want to know on your greatest problem

By BLAINE STUBBLEFIELD

EVERY MORNING'S MAIL brings us questions about priorities: what they mean, and what to do about them. We have answered these direct, through the help of our Washington Bureau. But meanwhile we have had that bureau working on a definite article which would give in 1, 2, 3 order the procedure involved. Only recently has the situation become clarified to the extent that such an article really could be definitive.

Here it is.

After you read it, read it again, and then again. Gradually, the Pattern of Priorities will become clear—or at least as clear as any such complicated problem can ever be.

At least, we believe you will realize that you, as a textile manufacturer, do not need to run, walk, ride, fly, or even write to Washington, in the great majority of cases. But if this article doesn't answer all your questions, send them in to us and we'll try to answer them direct, and later to supplement this article with further information.

Also, the whole picture is subject to change, and we'll keep you informed, through these columns, as such changes materialize.—*Editor.*

THE TEXTILE INDUSTRY is just coming under the priority system. How far control in this field will go is anybody's guess. Meanwhile, textile and textile equipment men are pouring priority questions into Washington, by mail and wire and in person. Although the priority system changes from day to day, one must learn it some time in order to follow the changes, and there is no better time to get it straight than now.

To understand *textile* priorities, one should first look briefly at the *general* priorities system. The general system is designed to apportion scarce raw materials, supplies, tools, and equipment among manufacturers of both military and civilian products, giving them first to defense, then to essential civilian needs, and then to less essential purposes.

These materials, equipment, etc., are scarce because the war effort has demanded rather suddenly about one third of the country's total normal supply and productive capacity, and because additional millions of people with boom cash are buying more civilian goods.

The source of priority authority is vested in the President. Under the President comes the new "SPAB" or Supply Priorities and Allocations Board, composed of Henry A. Wallace as chairman, William S. Knudsen, Sidney Hillman, Henry L. Stimson, Frank Knox, Harry Hopkins, Leon Henderson. But although Wallace is chairman of SPAB, Donald M. Nelson, as executive director, is the active boss. Under SPAB, and Nelson, comes the old OPM, Office of Production Management, and attached to OPM as before, are the various divisions: Production, Civilian Supply, Purchases, Materials, Labor, Contract, and Priorities. Mr. Nelson is also Director of Priorities.

Creation of the Supply Priorities and Allocations Board, at the top of the defense effort, by the President, was the recognition that apportionment of materials and production equipment is the axle on which the program turns. Thus Mr. Nelson, as SPAB's chief, is the king pin of this country's $70,000,000,000 punch at the Axis' chin. Second in command is Leon Henderson, administrator of prices, control of which the Government regards as vital to war and post-war economy.

As its name implies, SPAB controls both priority of supplies and equipment for defense production, and for civilian use. Allocations to civilians was formerly part of the Office of Price Administration and Civilian Supply. But civilian supply and defense supply overlapped and dovetailed, administrators clashed, and civilian supply was set over into SPAB, leaving Mr. Henderson only price control. Nevertheless, as you've seen, Henderson is a member of SPAB, so none of his teeth was pulled.

As for Mr. Knudsen, he is still boss of OPM, and in that position he still holds the throttle of the nation's production engine, although he is no longer the conductor of the defense train.

That is the rough background of the priority picture. Now look at a quick sketch of the detail.

FIRST IN THE PRIORITIES "Kit of Tools" is the "Priorities Critical List." This list was drawn up by the Joint Army-Navy Munitions Board and the Priorities Division, and has been revised monthly until now it contains over 300 scarce items.

A priority, in its simplest form, is a certificate from a Government department, attached to one of its orders to a manufacturer, for goods. In effect, the certificate says to the manufacturer that he must give this order preference over others (except those that have higher preference ratings), in order to meet the delivery date.

Priority certificates all are *authorized* by the Priorities Division of OPM but some of the forms are issued by Navy Supplies and Accounts, by Army Air Corps, Quartermaster, Engineers, etc., under supervision of the Army-Navy Munitions Board. The chief function of the Munitions Board is to formulate policies for, and coordinate the purchasing of, the various branches of the arms and services. But in all cases, the top authority is vested in the Priorities Division—that is, in civilian hands.

Once a priority certificate has been issued for any job, it may be extended to sub-contractors and from supplier to supplier, so that the prime contractor can meet his delivery date. Thus, priorities branch out like the tributaries of a river to scores or hundreds of sources. This would be simple enough, except that every priority is an overlapping river system, and many are trying to draw upon the same springs of supply.

Methods of extending priorities differ with various kinds of orders. Sometimes extension is authorized by an actual copy of the certificate from the Priorities Division to the supplier or

sub-contractor. Sometimes a photostatic copy is used. And sometimes, when a supplier is familiar with the prime contractors setup, he gives him preference without exchange of documents at all. To expedite the filling of orders, Army and Navy field representatives are now authorized to extend priorities, for wholly military contracts.

Priority rates are based on the urgency of the need. All defense orders are rated A-10 or higher; most-vital defense orders are rated A-1. Preference ratings for defense, starting at the top are: AA, A-1-a, A-1-b and down to A-1-j, then A-2, A-3 and so on down to A-10. There are B ratings, but they are effective only on goods not very hard to get. Numerous officials, such as procurement officers in the field, can attach ratings to orders, but they do not decide *what* rating. A "Priorities Directive," issued by the Munitions Board, tells what ratings shall be given on different types of orders The only certificate issued in the field is the PD-3 form, used for Army-Navy orders.

IN ADDITION to the *Individual Preference Rating Certificate* issued to secure delivery on a specific material, there are other forms of priority ratings.

The *Blanket Rating*, as the name implies, is a much broader rating, designed to enable certain companies or whole industries to get the scarce materials they need to turn out certain defense equipment. A relatively small number of blanket ratings has been issued. An example is the blanket preference on merchant ships, assigning A-1-a on ships to be completed in 1941, A-1-b for 1942, and A-1-c for 1943.

The *Project Rating* is similar to the Blanket Rating. The difference is that it is designed to enable the contractor to get materials for one specified project, such as contruction of a defense plant, or cantonment.

The *Defense Supplies Rating Plan* is for manufacturers who must begin production before actually receiving orders, and who have to have a steady flow of material coming into their plants. Under this plan, the manufacturer is permitted to compute his needed supplies for defense production for the current quarter on the basis of the last quarter's consumption, and to place them on order under an A-10 rating. The rating, of course, applies only for defense work.

A series of *Maintenance and Repair* orders directed mostly to utilities, transportation companies, and other essential industries, gives them a sort of blanket rating, to keep their equipment in shape. The parts manufacturer simply attaches a rider to his orders, saying: This is a maintenance order and is entitled to a rating under such and such a ruling of the Priorities Division.

But Priority ratings are not the only means employed to apportion supplies and equipment among manufacturers. In addition to preferences, there is Industry-wide Control. This means that, in some cases, like silk, tungsten, chromium, and a score of other materials, the situation is so tight that the Priorities Division doesn't use priority certificates alone; it simply tells the producers to divide all the materials, (or a pool which they have saved up) with such and such processors. And in addition to such allocations, a system of *Inventory Control* is being worked out, to keep manufacturers from having on hand any more than they need of any scarce materials.

NOW AS TO TEXTILE PRIORITIES: Only five phases of the general system above described, have as yet been applied to textiles. They are: (1) the Textile Machinery and Equipment Maintenance Order; (2) the Preference Rating Certificate; (3) the Project Rating; (4) Defense Supplies Rating Plan; and (5) Industry-wide Control. **1.** Consider the *Maintenance Order* first; because it is the latest. This applies only to manufacturers of textile machinery and repair parts, and not to primary textile mills. If you are such a manufacturer, and if you have trouble getting supplies and materials, here's what you do: Write to the Textile Branch, Office of Production Management, Washington, D. C., and ask for Form PD-88, on which to make application for the rating. Fill it out and send it back. State how many copies of the preference rating order you want, so that you can submit copies to all your suppliers, and so that they, in their turn, can submit copies to *their* sub-suppliers. Bear in mind that a supplier can apply the rating only to materials which will be physically incorporated into finished parts for maintenance and repair work. This means it cannot be applied on new machinery. There is not yet any rating on new machinery, and apparently none is contemplated at this time. **2.** Under the head of *Preference Rating Certificate* come several priority procedures. We said that no ratings are contemplated for new machinery. Yet exceptions are inevitable. If a textile mill finds it impossible to complete a defense contract without additional or replacement equipment, and if delivery cannot be secured under the A-10 rating, the mill should apply for special aid, to the Division of Priorities usually, unless the needed machine is to be used wholly on Army-Navy orders.

In the case of textile mill products, the Quartermaster attaches to all calls for bids, authority for the manufacturer to apply for a rating of A-1-I. If you have a contract with the Army—or the Navy, and you are unable to get yarn, for instance, you write to the Government contracting officer and ask that the rating certificate be issued to the yarn manufacturer. If you don't know about this officer, write to the Textile Branch, OPM.

You may wonder how the Government is going to know whether you put all of the materials you get, under any rating you may obtain, into your defense production and not partly into a civilian order. Well, it *doesn't* know, but it can find out quickly by comparing contracts with quantities of materials requested. The best way is to figure as nearly squarely as you can. If abuses are practiced they will show up, more regulations will be made, and you will have some more reports to file with Washington.

And incidentally, you may wonder why the textile industry has been unable to get a blanket rating of A-10 or better, as other industries have done. The answer is that the textile industry is only about 25% in defense produc-

(*Continued on page* 140)

"Priorities Critical List" (of Textile Items)

FINISHED END PRODUCTS

Bags: barrack, sea, cantle, powder, sterilizing water, sleeping.
Balloon; observation or barrage.
Blankets: wool.
Caps: field and winter, watch.
Cloth: rubberized, wool, dark blue melton or jersey, O.D., flannel, cotton, twill, wind resistant, khaki, netting for mosquito bars.
Clothing: flying, chemical protective, uniforms, hospital, mechanics, laboratory.
Cordage and twine: hemp, jute, oakum, abaca, sisal, henequen, flax, silk.
Drawers: woolen, half-wool, half-cotton.
Gloves: leather, wool.
Leggings: canvas.
Masks: gas, oxygen.
Mattresses: all types.
Parachutes: service types.
Socks: woolen, cotton and wool.
Tents: service types.
Underwear: half cotton, half wool.
Vests: life preserver.

RAW MATERIALS

Cotton: canvas duck, webbing.
Cotton linters.
Silk: parachute.

Research Plan Moves On

Conference between U. S. Institute and Textile Foundation charts course

AN IMPORTANT STEP in the projection of a long-range research program has just been concluded through a conference between representatives of the U. S. Institute for Textile Research and the research staff of the Textile Foundation, held at the National Bureau of Standards in Washington. This followed other meetings between the Institute and research men in the textile industry, and will be followed by similar conferences in the future, leading up to the completion of the plan for presentation at the Institute's annual meeting in November. It was in line with the new working arrangement between the Institute and the Foundation, concluded recently.

At the Washington conference, the thrilling possibilities for practical application of the basic studies of the Foundation's staff were explored, and means to make those results available to the industry at large were discussed.

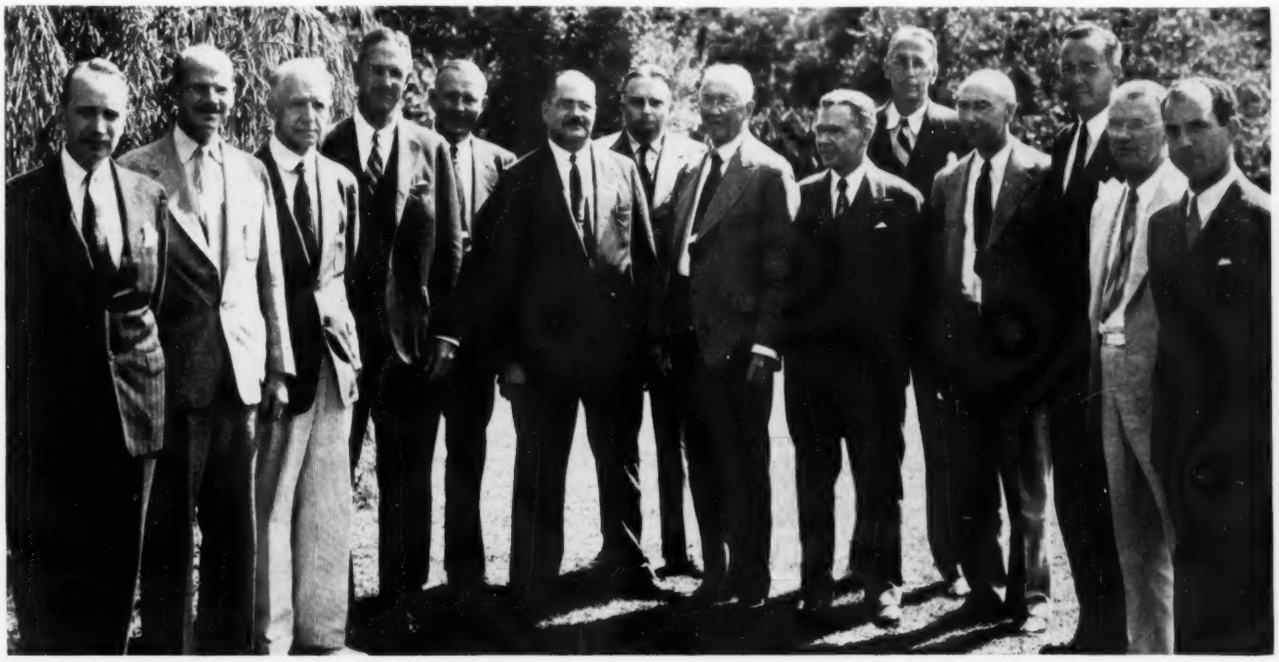
It will be the U. S. Institute's job to provide a channel between the laboratory and the mill. It was the consensus at the meeting that, for the first time since the start of organized, cooperative research in the textile industry in 1930, there now is a chance to make the program a working tool in future textile development. It was also agreed, however, that to achieve that end, the active support of all groups and all individual companies is essential. The enlistment of such support will be the first job of the officers and committees of both the Institute and the Foundation.

REPRESENTATIVES of the U. S. Institute at the Washington meeting included F. S. Blanchard, of Pacific Mills, president; Fuller E. Callaway, Jr., of Callaway Mills, vice-president; Dr. Harold DeWitt Smith, of A. M. Tenney Associates, treasurer; E. T. Pickard, executive secretary; Douglas G. Woolf, editor of TEXTILE WORLD, a member of the steering committee; Dr. Wm. D. Appel, of the Bureau of Standards, chairman of the Industrial Research Committee, and three members of his committee, Dr. E. R. Schwarz, of Massachusetts Institute of Technology, vice-chairman; Dr. A. C. Walker, of Bell Telephone Laboratories, and W. O. Jelleme, of Pacific Mills; and W. W. Carman, Jr., of the U. S. Department of Commerce, a member of the Economic Research Committee.

Representatives of the Foundation included Dr. Milton Harris, director of the Foundation's research at the National Bureau of Standards; Dr. R. Y. Winters, of the Department of Agriculture, and Alban Eavenson, of Eavenson & Levering, both members of the Advisory Committee for Scientific Research; and Dr. Frederick M. Feiker, consultant on textile education. Mr. Pickard also represented the Foundation in his dual capacity as executive secretary of both organizations. Franklin W. Hobbs, chairman, and Donald Comer, director, sent messages of regret at their inability to be present.

The National Bureau of Standards was represented by Dr. Lyman J. Briggs, director, and Dr. Warren E. Emley, chief of the Division of Organic and Fibrous materials, who is also a member of the Advisory Committee for Scientific Research.

Members of the research staff of the Foundation present at the conference, in addition to Dr. Harris, included Jacinto Steinhardt, Henry A. Rutherford, Arnold M. Sookne, Lyman E. Fourt, Francis W. Minor, Walton B. Geiger, Fritz Kobayashi, Charles H. Fugitt, Louis R. Mizell, Albert R. Martin, and Charles Hock.



REPRESENTATIVES of U. S. Institute for Textile Research and Textile Foundation at Washington conference. Left to right: Edward T. Pickard, executive secretary; Douglas G. Woolf, editor, Textile World; Lyman J. Briggs, director, National Bureau of Standards; F. S. Blanchard, president, U. S. Institute; A. C. Walker, Bell Telephone Laboratories; E. R. Schwarz, Massachusetts Institute of Technology; Harold DeWitt Smith, treasurer, U. S. Institute; Alban Eavenson, Eavenson & Levering; Warren E. Emley, National Bureau of Standards; W. O. Jelleme, Pacific Mills; W. D. Appel, chairman, Research Council, U. S. Institute; Fuller E. Callaway, Jr., vice-president, U. S. Institute; R. Y. Winters, member, advisory committee for scientific research, and Milton Harris, director of research for the Foundation. The meeting was held at National Bureau of Standards

Civil Protection of Textile Plants

Stronger defenses are needed to reduce fire hazard during present emergency

By LEONARD F. MAAR
Safety Research Institute

PRODUCTION OF TEXTILES for national defense is one thing; protection of that production under emergency conditions is quite another problem. In one way or another, the Government has interested itself in both production and protection, but the industry is less likely to be aware of the Government's protective functions because the whole pattern of civilian defense is just becoming apparent.

With greater or less speed, depending upon geographic location and the alertness of local public officials, civilian defense is being organized. From the industry point of view, it begins with fire safety, because fire from any cause can halt production, and because fire is a weapon of the saboteur. Then, too, fire is the consequence of incendiary and high explosive bombing. So at any state of the emergency, fire protection is of major importance.

Emergency measures for reducing the fire risk are mainly a matter of intensifying the precautions which ought to be in force at all times, and of coordinating them with the plant of the local defense council. Full-strength fire protection, which is a requirement of safe operation in normal times, easily can be expanded to meet the demands of all-out defense.

What is full-strength fire protection? That depends. There is no rule of thumb to go by, as the hazards of one plant and another vary considerably. But the aim of full-strength fire protection can be stated simply, and it coincides with the objectives of civilian defense. It will provide each plant with the means of handling all but major fire emergencies.

Stephen C. Garrity, state fire marshal for Massachusetts, where there are many textile plants, in a paper on the techniques of civilian defense, says:

"Plant fire departments should be organized in all large manufacturing companies, and in many smaller industries, to cope with ordinary fires and to be trained to handle more serious emergencies in case of war. Regular instruction should be given these private fire departments by a competent member of the public fire department, and every assistance rendered to promote the efficiency of company organizations.

"The primary function of a plant fire department is to extinguish a fire in its incipient state, and, if the blaze is of such proportions that it can not be dealt with, they should be taught to control the fire until the local public fire fighting force arrives at the scene. Their efforts may well prevent a fire of minor consequences from becoming a holocaust."

Mayor LaGuardia of New York, director of the Office of Civilian Defense, is aiming at thorough community organization and the provision of plant protection as soon as possible for all structures in which 100 or more persons are employed or live. In large population centers, such as metropolitan New York and New England, the textile industry will feel the force of this organization with greater impact than in small, isolated communities.

By way of examining in greater detail this matter of full-strength protection, the author has collected information about a number of recent fires in textile plants from the published material of the Associated Factory Mutual Fire Insurance Cos. These are clinical data, pointing the direction in which plant management should go in planning tighter defenses against fire.

In a Connecticut finishing plant, a gate watchman discovered smoke curling out of the door of a storage shed. He promptly notified the plant superintendent, who sounded the plant and public alarms. The company brigade brought one hose line into play on the outside wall of the shed, while a specially trained fire extinguisher squad went to work inside the shed. The bulk of the fire was out before the public department arrived.

Here is the plant brigade at work. The idea is not new. It has been followed successfully, in large and small plants, for many years. But in the emergency, the brigade can be enlarged and more carefully trained to provide a greater measure of safety.

The advantage of striking quickly at a fire and controlling it with a minimum of damage and disturbance is well illustrated in another mill fire. Foreign material in a picker on the second floor of the mill started a fire that flashed over six other pickers, and their waste ducts became involved. Three sprinkler heads went off, and employees brought two large hose streams to bear on the fire. They put the blaze out without too much trouble, but the quantity of water was such that it leaked through the floor below and wet down 110,000 yd. of crash toweling. The lighter streams of fire extinguishers, used promptly, might have avoided that damage. It takes training, however, to give workers judgment in such matters.

GOOD HOUSEKEEPING pays rich dividends. In Factory Mutual plants in the last five years, the fire damage resulting from poor housekeeping amounted to a million and a quarter dollars.

There was a fire in a mill finishing cotton velveteens and corduroys. These fabrics are treated with linseed oil paint and then hung in non-combustible festoon dryers having ducts extending up through a pitched, joisted roof. In the interiors of the ducts, sufficient oily lint clung to start spontaneous heating and, finally, ignition. Fire spread to the roof, and, although an employee promptly stopped the dryer fans and shut the dampers, sparks also set fire to the cloth. Five sprinklers opened to control the fire in the dryer, and firemen had to use two hose streams to put out the fire in the roof. Frequent cleaning of the ducts would have prevented that fire from happening.

In another plant a d.c. generator operated over a pit. Oil drippings accumulated in the pit and were ignited by a spark from the commutator or from a carelessly tossed cigaret stub. The engineer opened the circuit breaker as soon as he saw smoke breaking above the edge of the pit, but, even so, two sprinklers opened and employees with fire extinguishers were needed to put out the fire. The dangers of abusing electric facilites are generally well understood, but often enough there are fires caused by improper installations or carelessness.

IN THE PICKER ROOM of a southern textile plant, there was no protective bushing where electric wiring entered a junction box. Vibration caused the metal edges of the hole in the box to

Courtesy Associated Factory Mutual Fire Insurance Cos.

It's too late now for the management of this textile mill to install adequate fire-protection facilities; front cover picture shows another textile mill being destroyed by fire

cut into the insulation of wire and, after a period of time, the metal box made contact with the exposed wire, producing an arc and sparks which ignited a storage of cotton laps. Four sprinklers opened, and employees using extinguishers and hose were called to the scene. Proper installation of the bushing would have prevented that fire.

In another mill, employees on a night shift decided to move an unused brushing machine to obtain needed floor space. The electric conduit connection was broken, causing a short circuit. Sparks ignited cotton fly deposited on the burlap covering of the machine. Small hose and extinguishers had the fire under control when the public department arrived. The plant electrician should have been notified in advance.

Watchman services are, of course, essential at all times, and watchmen should have access to every part of the plant. The folly of establishing stations outside of buildings was illustrated recently in a southern cotton mill. There the watchman rang a station outside a two-story building, which he was not required to enter. One Sunday morning he saw water flowing from under the door of the entrance. He called a master mechanic, gained entrance to the structure, and found that sweepings in a wooden box had ignited spontaneously. Two sprinklers opened, putting out the fire, but water ran for several hours, wetting down cloth that was in the building. If the watchman had been required to enter this building on his rounds, he might have smelled the smoke of the fire and put it out with a fire extinguisher before much damage was done. A water-flow alarm also would have warned him of the fire.

Proper maintenance of machinery will go far to minimize the fire danger. The routine followed in the weave room of a New England plant is a good example of proper maintenance. There a regular schedule was set up, calling for the cleaning of looms with an air hose and brushes, and the sweeping of floors every operating shift. This schedule is for high-speed broadcloth looms. Slower looms are cleaned weekly. Each loom is completely oiled twice a week and each oiler is assigned a specific group of looms to service and keep in condition. Certain bearings are oiled daily. When the warp runs out, each loom is given an especially thorough cleaning by wiping off all lint and hardened grease with a cloth. Treadle rolls are removed, bearings cleaned, and oil holes cleared. The looms are inspected for loose parts or faulty adjustments before the new warp is put in.

INSPECTION OF MACHINES is essential. In one mill an employee near a can dryer saw a small flame on the driveshaft near the outside bearing casing. A safety guard had worked loose, striking a spark on the driveshaft. Before the employee could do anything about it, flame flashed upward over the machine, ignited the canvas canopy overhead, and traveled through accumulated lint along the piping, through the monitor, and over part of the main ceiling. Fifteen sprinklers opened. Employees, using extinguishers and a small hose stream in a way not to cause unnecessary damage, put out the fire in a few minutes. The fire burned the canvas and a belt on the dryer, melted solder in the dry cans, and burned holes in blankets on a nearby Sanforizer—all of which would have been avoided if the safety guard had been properly tight.

Proper condition of storage is a safety factor. In one mill ten bales of mixed colored cotton waste of low values were placed in one end of a warehouse in which valuable baled cloth was stored. The waste heated spontaneously and fire broke out two weeks later. Sprinklers, hose, and fire extinguishers put out the fire, which might have been avoided if cotton waste had been properly segregated from more valuable material.

Storage of bales of cotton or stock in piles so high that they interfere with sprinkler operation is not uncommon. Adequate aisles and overhead space should be maintained at all times.

These fires occurred not because of any large negligence, but because of ill-considered details of management. Full-strength fire protection depends not alone upon fire extinguishers, hose, and sprinklers, but upon administration, as much as anything else. Fire safety results from planning, training of employees, and adequate equipment. With that beginning, manufacturers can go a long way toward fire protection under civilian defense requirements.

Styling Men's Wear Suitings for

By BENJAMIN M. PRAGER

WITHOUT DOUBT semi-clear and mill-finished worsteds will again lead the field of fabrics most sought after for men's suits for the fall 1942 season. There will be a considerable business done in rayon-wool fabrics, with a 50-50 blend probably leading in popularity. These fabrics will for the most part follow the lines of worsted rather than woolen styling.

The field of men's wear worsteds lends itself to subdivision into two parts: mixtures and piece-dyes. Style trends in each of these fields will be dealt with in this article: a subsequent article will give attention to styling of woolen numbers.

In the semi-clear-finish mixture class, tick weaves, pin dots, and variations of wide-wale grounds will probably compose the new pattern group.

Tick-weave effects will be popular with soft blending overplaids, in addition to the plain-ground effects. They will also be found with thin hairline stripings blended into the ground, as illustrated in sample *A*. This cloth is made with a solid-color filling, and with three warp colors—brown, tan, and white—laid in 2, 1, 1. Innumerable arrangements of this type are possible.

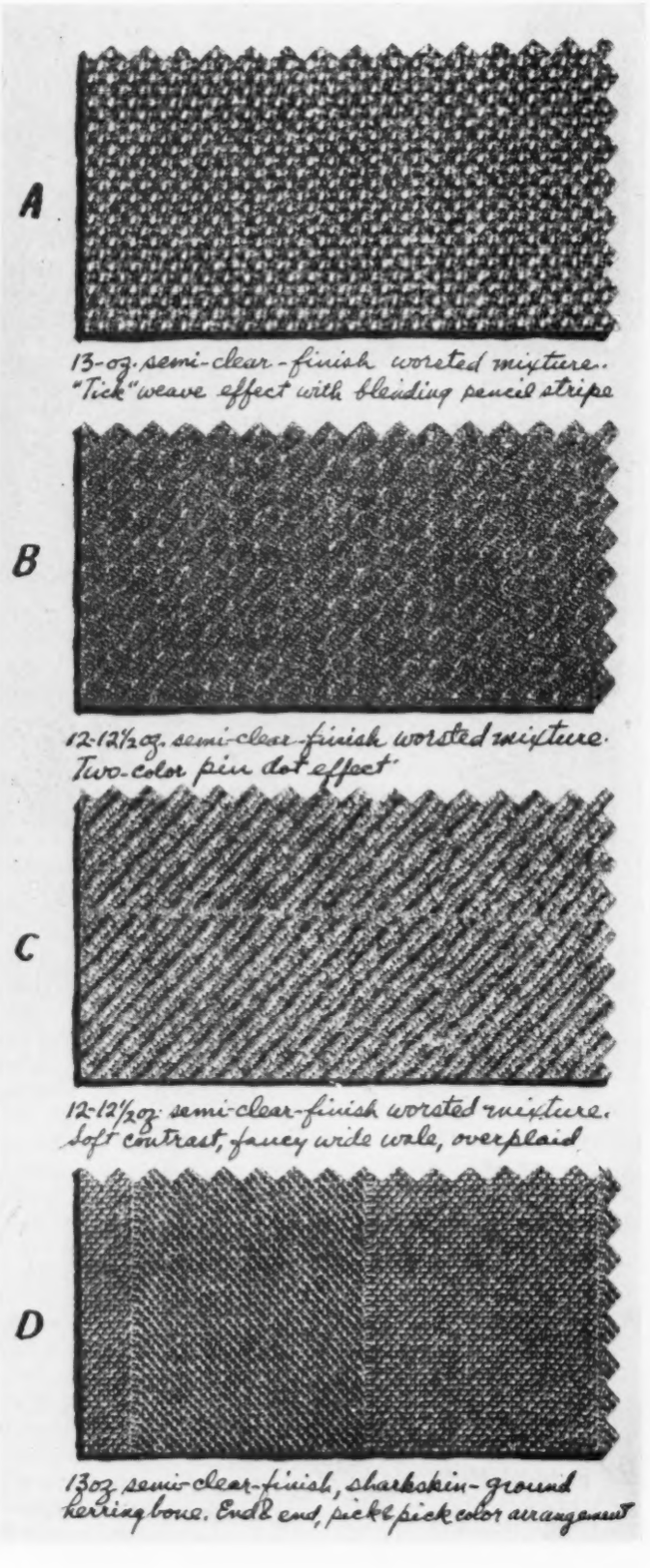
The pin-dot pattern, illustrated by sample *B*, is coming in strong. This is made by having ends of decoration which float on the back, coming to the face only where dots are to show. In addition to styles in which dots are the same color throughout, banded effects will also be shown. These are produced by alternating sections comprising three to five pin-stripe ends of one color, with a section of similar size in a second color. The pattern also lends itself readily to overplaiding.

The wide-wale fabric shown in sample *C* illustrates the third in the group of new patterns for mixture cloths. This was popular during the last season, and will continue to be so for the fall 1942 season. Fabrics of this type will be found plaided with blending decoration yarns, as in the sample shown. Color grouping on these wide-wale fabrics is important, as so much of both warp and filling show in the cloth. Care must be exercised when selecting yarns, so that they will not have too sharp a contrast.

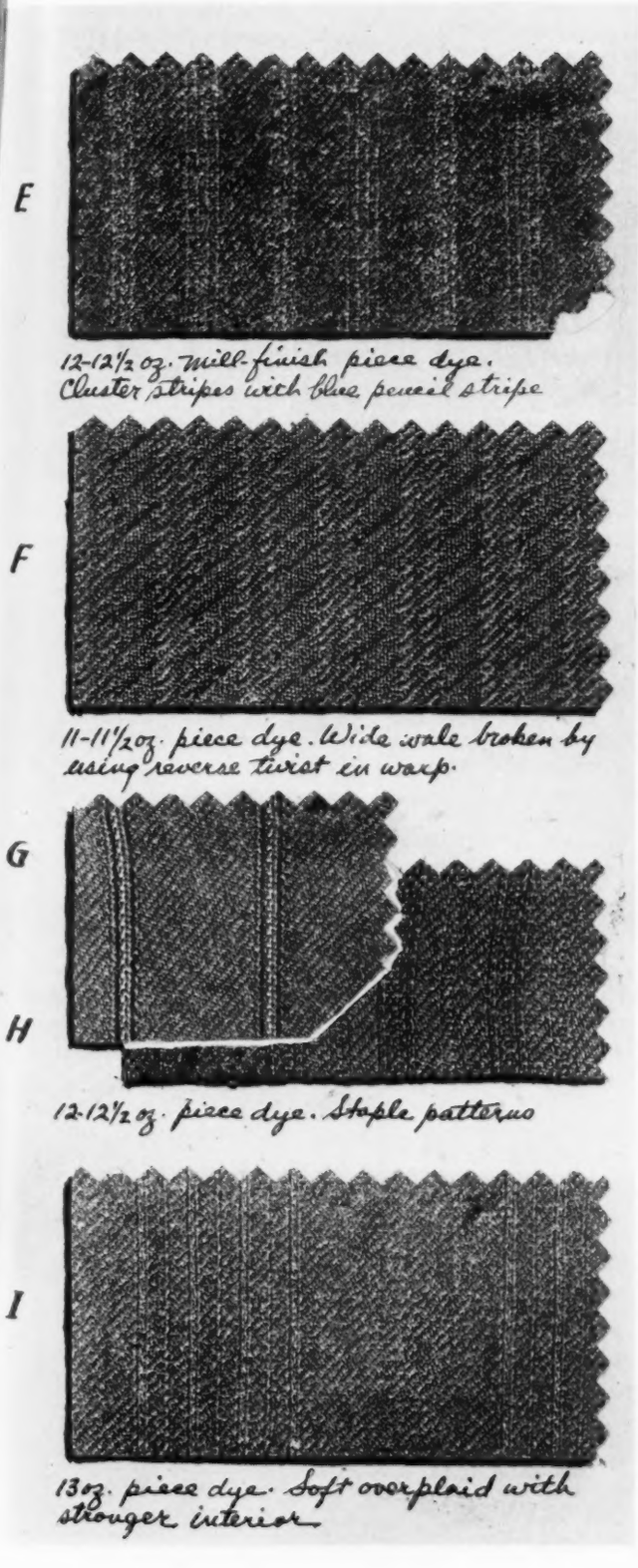
Staple patterns comprise another important group of mixture fabrics. These have great appeal to middle-aged and older men. In this group are chalk stripes, alternate-color chalk effects, pencil stripes, and pin stripes. Colored pencil stripes will be much more popular during the coming season than in the recent past. Weave effects edged with decoration yarn, the soft sharkskin Glen plaid, and soft overplaids will also attain considerable popularity.

Included in the weave effects are many herringbone variations—wide, medium, and narrow. Sample *D* shows a wide sharkskin ground herringbone with a colored pencil stripe. The ground is end and end and pick and pick.

AS FOR GROUND SHADES, it appears that browns will easily take the lead in the mixture-fabric group. Browns of redder hue will be strongest. Next will


A
13-oz. semi-clear-finish worsted mixture. "Tick" weave effect with bleeding pencil stripe
B
12-12½ oz. semi-clear-finish worsted mixture. Two-color pin dot effect
C
12-12½ oz. semi-clear-finish worsted mixture. Soft contrast, fancy wide wale, overplaid
D
13 oz. semi-clear-finish, sharkskin-ground herringbone. End & end, pick & pick color arrangement

fo all 1942


E
12-12½ oz. Mill-finish piece dye. Cluster stripes with blue pencil stripe
F
11-11½ oz. piece dye. Wide wale broken by using reverse twist in warp.
G
H
12-12½ oz. piece dye. Staple patterns
I
13 oz. piece dye. Soft overplaid with stronger interior

come the deep chocolate brown, followed by medium shades. The real dark browns seems to have fallen completely out of favor. Fabrics today must be mixier and colors brighter than heretofore.

Next in order of color popularity will be slate blue, followed by medium blue. Teals must definitely be on the blue side, void of any green hue. Gray browns and Cambridge gray must be included in lines to give proper balance.

Because of price rises, 13- and 14-oz. fabrics are being supplanted by 12-12½-oz. cloths. It seems altogether likely that next season's popular demand will settle on the latter weight, not only because of prices, but due to the fact that it is not necessary for a suiting to weigh more than that in our normal urban existence.

PIECE DYES, the second main fabric group in the worsted suiting field, have had a noticeable upswing in popularity during the last year. In these cloths the most important issue is ground shade. Blues will lead: navy blue will be most popular, with medium blue, and teals definitely more blue than green, following closely behind. Brown must of course be considered, and will be strong. Once again it should be kept in mind that the redder brown will have most drawing power, with deep chocolate second, and medium shades third.

As to pattern work in piece-dyes, we can look to brighter styles than have been shown. Cluster stripings, as illustrated by sample *E*, will reappear. These may be arranged either in bands of decoration, or with bands spaced ½ to 1 in. apart and cords or weave to break up the ground between cluster stripings. Triple-stripe effects on wide-wale grounds have noticeable appeal for persons looking for brighter and different patterns. Strong leanings toward weave grounds, both plain and overplaided, will also be found in the piece dyes.

Broken-wale grounds, as in sample *F*, will probably be popular. This cloth employs ¼-in. bands of alternating S- and Z-twist yarn in the warp. Effects based on reverses in twist will be used more than usual, due to the difficulty in securing decoration yarns.

Staple effects must be stressed, as it is in the piece dyes that they come into their own. Samples *G* and *H* are illustrative. Sample *G* features a colored pencil stripe, alternating with slate, edged with a cord. Sample *H* has a ¾-in. blue striping, edged with a single end of slate to add brightness to the pattern.

The general upswing in overplaids in the piece dyes is interesting to note. It is suggested that the overplaids themselves be kept soft, while the interior is brought out strongly, as in sample *I*. S- and Z-twist grounds of four and four and eight and eight, warp and filling, are always good sellers for the staple suit trade, and should be better than average.

In the piece-dye group also there is a tendency toward the 12-12½-oz. fabric, although the 13-oz. cloth has a definite place which cannot be denied. A considerable number of manufacturers will buy 11-11½-oz. cloth, purely on a price basis. Middleweight cloth has been a spring fabric for numerous years, but will fit into the fall bracket to manufacturers of less expensive suits.

Gabardines and other panting fabrics also are in the piece-dye class. While the plain gabardine still rules the panting trade, it is being hard pressed by fabrics employing various weave grounds. Most noteworthy of these are the bedford cord, and the cavalry twill. Most important colors will be dark brown and dark covert.

Hosiery Producers Not Cheerful

In spite of hopeful notes sounded by speakers at annual southern meeting

"WAR—WAGES—WORRIES" was the heading of TEXTILE WORLD'S story on the 1940 meeting of the Southern Hosiery Manufacturers Association, and, though war and wages are still with us, the "worries" moved to the head of the list at the 1941 meeting of the association which was held at Grove Park Inn, Asheville, N. C., on Sept. 19 and 20. Despite the fact that speakers sounded hopeful notes, most of which were based upon a long-range view, the assembled manufacturers did not seem to be able to stop wondering what will happen to their industry in the immediate future. The general feeling was aptly summed up by J. H. McEwen of May-McEwen-Kaiser, Burlington, N. C., president of the association, in his opening remarks when he stated, "At a meeting of this kind we usually attempt to look forward to next year, but in view of recent events we are now unable to look forward to next week."

The association, meeting in two general sessions, heard Walter W. Chamblin, Jr., of the National Industrial Council, and Dr. David Friday, economist, on Friday morning, and was addressed by J. W. Mettler, president of Interwoven Stocking Co., New Brunswick, N. J., on Saturday morning. The Saturday meeting was further highlighted by an "Information Please" session in which technical experts Thomas Johnson, American Bemberg Corp., H. B. Carico, American Enka Corp., and W. S. Wheeler, Duplan Corp., answered questions on the technical problems involved in knitting rayon hosiery.

Representatives of the seamless branch of the industry met on Friday afternoon to discuss their problems, with W. H. Banks, of Grantville, Ga., presiding. Mr. Banks is also president of A.C.M.A. Seamless manufacturers, due to their less serious involvement in the silk situation, did not show the long faces and thoughtful expressions so evident on most of the full-fashioned producers.

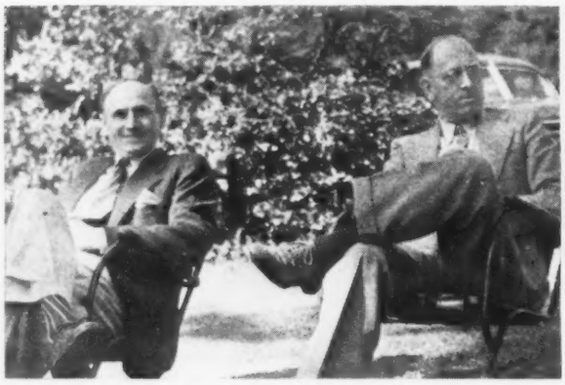
In his report, Taylor R. Durham, executive secretary, stated that the association has just completed a record year in regard both to membership and to activities.

Mr. Chamblin, speaking on "What's Going on in Washington," noted the change in the last eight years during which Washington has supplanted New York and Chicago as the focal point of the country. In discussing priorities, he said, "Priorities, soon to be known as defense allocations, are now determining the flow of life blood in industries participating in the defense program. A definite red light has been placed against further expansion of non-defense industry."

In discussing price control, Mr. Chamblin stated that opponents of the bill now in Congress opposed it on grounds that it centers life and death power over industry in the hands of the price administrator. "It should be noted, however," stated the speaker, "that Mr. Henderson, in response to questions of committee members, replied on repeated occasions that he would not use the powers in the bill to bring about 'reform,' . . . and that none of the powers in the bill would be abused or used for purposes other than controlling prices and inflation."

Small business is at last beginning to get some attention because ". . . the White House has been listening to the 'grass roots' rumblings of small business which already is feeling the pinch of the defense program on raw materials."

Dr. Friday, speaking on "Trends in Our National Economy," compared prices, inflation, and employment of the present time with similar conditions of World War I. He does not expect a



(Left) R. T. Amos of Amos Hosiery Mills, High Point, N. C., and new president of the association, and J. W. Lindsay, treasurer of Guilford Hosiery Mills, High Point, relaxing and watching other members start a round of golf. (Right) Fritz Seifart, president of Hudson Silk Hosiery Mills, Charlotte, N. C., was reelected treasurer of the association.

Walter W. Chamblin, Jr., makes a statement which puts a thoughtful expression on the face of Taylor Durham.

marked inflation, and considers it reasonable that business will continue to increase after the present war as after the last one, regardless of whether the conflict continues for 6, 12, or 18 months longer.

"Twenty years ago," stated Dr. Friday, "I worried about what would happen when the 4-million man army disbanded, and fully expected unemployment to reach 10 million; but conditions were good by 1919. We thought that prices would fall, but they rose 33⅓% above 1918."

According to Dr. Friday, present prices average 110 to 115 based on 1926 as 100, and no serious inflation can occur at such a level. The mention of taxes always brings protests, but it is necessary to be cold-blooded about such meaures and realize that they are "necessary evils which serve their allotted purpose for a time and then pass on."

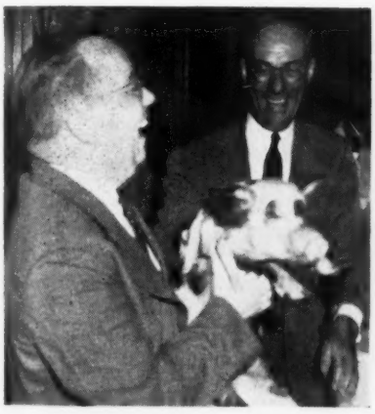
The greatest rise in prices, coupled with increases in employment, can be expected after the war, when the period of replenishment sets in and people begin to buy the merchandise now unavailable or out of reach, stated Dr. Friday.

Speaking on "As the Situation Appears to a Hosiery Manufacturer," J. W. Mettler said that if this country follows the pattern of England, a 50 to 100% rise in hosiery prices can be expected, with the principal rise in men's hose and with a continued scramble in production of women's hose.

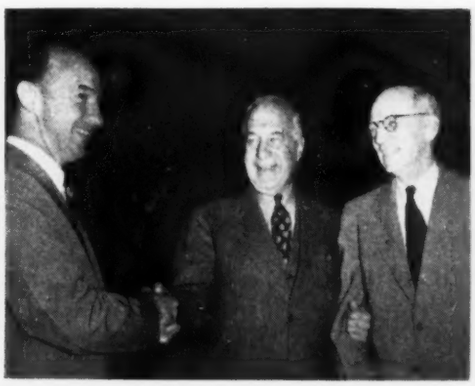
"Business can expect a long siege, many changes, and an aftermath which will follow closely that of World War I. I foresee no calamity, and business will function spiritedly through it all, but it probably will not be pleasing to many rugged individualists," stated Mr. Mettler.

In the "Information Please" feature, the following interesting facts were brought out: approximate maximum strength twist of rayon yarns can be calculated by the formula, 2500÷denier; one problem of knitting silk and Nylon hose with cupra rayon welt is the slowness with which the rayon dries, and extra drying time must be allowed; temperatures above 260° F. are unfavorable to all rayons, and it is recommended that conditions be maintained at approximately 240° F. at 15 to 16 lb. pressure; more even stitch formation is obtained with relative humidity of 60% on viscose, and 65 to 70% on cupra rayon; rayon can be stored two years or longer with safety if allowed to maintain proper moisture, but can be reconditioned satisfactorily if allowed to dry out; there are no differences in shrinkage between bright, semi-dull, and dull yarns if the deniers, filaments and twists are the same.

In the election of officers for the coming year, R. T. Amos of Amos Hosiery Mills, High Point, N. C., was chosen to succeed Mr. McEwen as president, C. S. Kincaid became vice-president and chairman of full-fashioned division, C. V. Cline was elected vice-president and chairman of seamless division, Fritz Seifart was reelected treasurer, and Taylor R. Durham, continued as executive secretary.

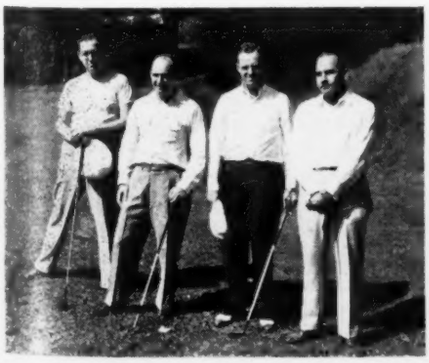


P. G. Hendricks, Specialty Products Co., receiving from Sam Diggle, Dixie Mercerizing Co., a live pig as prize for high golf score.

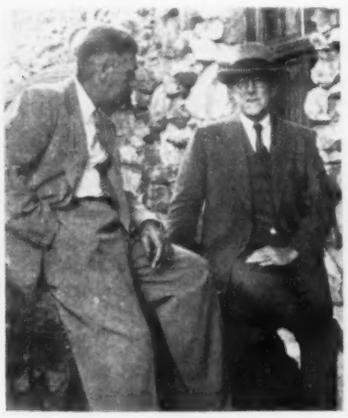


Henry A. Lineberger, treasurer of Knit Products Corp., Belmont, N. C., greets J. W. Mettler, president of Interwoven Stocking Co., as Taylor Durham, executive secretary of the association looks on smiling.

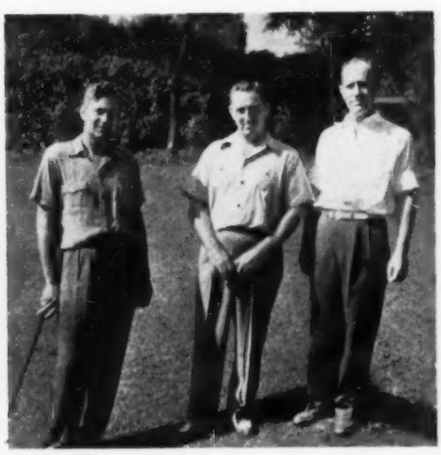
J. M. Berry, president of Rome (Ga.) Hosiery Mills and W. N. Banks, president of Grantville (Ga.) Mills meet for a chat in the lobby of Grove Park Inn.



Left to right: R. P. Shappard, Jr., Spalding Knitting Mills, Griffin, Ga.; Ralph Ewing, Central Franklin Process Co., Chattanooga, Tenn.; Darden Hampton, Avondale Mills, Sylacauga, Ala., and George S. Johnston, Textiles, Inc., Gastonia, N. C., enjoy the Asheville Country Club course.



Fred Lemmond of Dixie Mercerizing Co., Chattanooga, Tenn., talks over the situation with J. P. Gaut, of Holston Mfg. Co., Knoxville, Tenn.



Left to right: Herman Smith, Donald Jones, and Z. A. Ross as they finished the first nine.

Combed Yarn Spinners Fry Fish

Or rather eat fish-fry, and talk it out with representatives of Government

ON THE BANKS of the Catawba River, at the Red Fez Club near Charlotte, N. C., under a cloudless Carolina sky, members of the Southern Combed Yarn Spinners Association met in annual convention Sept. 23, indulged in barbecue, fish-fry, beer and fixings, talked it out with high-ranking Government officials, elected S. M. Butler president to succeed Stuart W. Cramer, Jr., and listened to the latter's stirring valedictory address.

In the minds and hearts of both members and guests, there must have come the gripping conviction that almost nowhere else at the present time in a world aflame could industry and Government meet in such free interchange of thought, both intent on the preservation of free enterprise and of the rights of the individual.

The principal speaker, General C. L. Corbin, Assistant Quartermaster General and director of procurement of textiles, who is the largest buyer of textiles in the world, stated without reservation that the combed yarn spinners had shown a remarkable spirit of cooperation with the Government. "You have put your cards on the table," said the General, "and played them fairly."

The other principal speaker from Washington was James P. Davis, Assistant Administrator of OPA. He stated that, in his opinion, a period is rapidly approaching when the price ceiling situation will be mutually satisfactory to both Government and industry. He described as constructive and forward-looking the latest move to tie up price ceilings on yarn and cloth with the fluctuating price of raw cotton.

"It has been a great privilege and pleasure to work with the members of your group who have come to Washington to help us in working out these common objectives of some restraint on prices which would at the same time represent a fair and going situation for you," he said.

Excellent as these two speakers were, they did not eclipse the retiring president, Major Stuart W. Cramer, Jr. After the meeting, a member of the association summed up the general reaction to Major Cramer's address when he remarked: "It brought tears to my eyes." He was referring particularly to this paragraph:

"In times of stress like these, the public welfare must take precedence over private interest, and each of us must be prepared to make whatever sacrifices may become necessary. On the other hand, those in authority must always remember that people will not fight for things they do not like, but only for what they love and cherish. This country has grown great under the system of free private enterprise, and if that system is ever destroyed the America we have known will perish from the earth. The clock ticks on, and another year draws to its close. The one ahead of us will be even more trying to men's souls than the one we have just lived through. For your loyalty and support I am grateful. Times like these challenge the best that is in us. Let us all help each other to bring it forth. If we pull together I have no fears for the future of our industry or of our country."

Another heart-warming part of the meeting was the presentation of a watch, suitably engraved, to T. H. McKinney, chairman of the association's Defense Committee, and of the Combed Yarn Industry Committee, in recognition of his marvelous job in representing the combed yarn spinners in their attempt to serve the country's needs.

Mr. McKinney, not known as an inarticulate gentleman, admitted freely that in this case he could find no words to express his appreciation of this tribute.

New officers elected at the meeting were: President, S. M. Butler, Carlton Yarn Mills, Inc.; first vice-president, W. L. Balthis, Peerless Spinning Corp. & Balston Yarn Mills, Inc.; second vice-president, Caldwell Ragan, Ragan Spinning Co.; treasurer, T. L. Wilson, Ruby Cotton Mills; chairman of executive committee, S. W. Cramer, Jr., Cramerton Mills, Inc.

Directors for three years: D. P. Stowe, Perfection Spinning Co. and South Fork Mfg. Co.; Geo. W. Boys, Green River Mills, Inc.; J. A. Groves, Wiscassett Mills Co.; J. S. Verlenden, Standard-Coosa-Thatcher Co. Directors for two years: W. H. Suttenfield, American Yarn & Processing Co.; A. G. Myers, Textiles, Inc.; C. C. Armstrong, Gastonia Combed Yarn Corp.; John R. Crawford, Jr., Rowan Cotton Mills Co. Directors for one year: R. Horace Johnston, Johnston Mills group; Ralph S. Robinson, Robinson Yarn Mills, Inc., R. D. Hall, Stowe Thread Co.; and T. H. McKinney, American Yarn & Processing Co.

Honor guests present, introduced by

AT SPEAKERS TABLE during annual meeting of Southern Combed Yarn Spinners Association. Left to right: General C. L. Corbin, Assistant Quartermaster-General; Mildred G. Barnwell, executive secretary; T. H. McKinney, chairman of the industry's defense committee; and S. M. Butler, elected president. The vacant chair belongs to Stuart W. Cramer, Jr., retiring president. In the background are W. N. Banks, president, American Cotton Manufacturers Association, and Charles A. Cannon, president, Cannon Mills Co.

Mildred G. Barnwell, executive secretary, included: Brigadier-General C. L. Corbin, Assistant Quartermaster General, War Department; James P. Davis, assistant administrator, OPA; W. N. Banks, president, and W. M. McLaurine, secretary, of the American Cotton Manufacturers Association; Douglas G. Woolf, editor, TEXTILE WORLD; A. L. Bulwinkle, Member of Congress from the Tenth District, North Carolina; F. E. Field, Manager Defense Contract Service, OPM; Hunter Marshall, secretary, North Carolina Cotton Manufacturers Association; Melbourne Smith, *Daily News Record*; Dave Clark, Clark Publishing Co.; Owen Fitzsimmons, secretary, Carded Yarn Group; Reed Dunn, assistant to president, Commodity Credit Corp.; Albert Russell, acting manager, Delta Council; Fred W. Morrison, of Gardner, Morrison, Rogers & McGuire, Washington; John T. Wigington, director of research, Cotton-Textile Institute; R. S. Dickson, president, R. S. Dickson & Co., Inc.; Lt. Col. C. W. Woodward, Quartermaster Depot; Frank Lyman, Fitchburg Yarn Co.; Geo. B. Knowles, Jr., Kilburn Mill.

QM Buying for 1,500,000 Men

That is basis of present program for next summer's needs, subject to change

THE QUARTERMASTER CORPS is laying in cloth, clothing and equipage for an Army of 1,500,000 men next summer, Gen. C. L. Corbin, Assistant Quartermaster General, told members of the Southern Combed Yarn Spinners Association at their annual meeting. This direct statement was in answer to a question whether the Quartermaster was laying in supplies for a big Army, say 4,000,000 or 5,000,000 men. The General's answer showed that the present plan for next year calls for a leeway of a half-million men over the present Army. Naturally, however, no implication was made that there might not be a sharp increase in these plans if the emergency became intensified.

Speaking in terms of dollars, Gen. Corbin stated that the budget for both the present year, ending June 30, 1942, and that for the next fiscal year, ending June 30, 1943, are approximately the same as the amount spent last year—that is, fiscal 1941. In each case the figure is about $600,000,000. It should be understood that the Supplies Service, including clothing, equipage and food, spent $1,000,000,000 for fiscal 1941, of which $600,000,000 was for clothing and equipage.

Asked whether the Government demands for textiles would interfere with the supply for civilians, the General stated that he did not anticipate it would. "We have met our present requirements," he said. "We have enough leeway now so that if we continue at the present rate I do not think it will interfere materially with civilian needs. There may be a small interference; for instance, if we want some more combed yarn, we may have to apportion that out among the various mills, and we will apportion it. We won't require one man to do it. But I hope that won't be the case."

In answer to the question whether there were any plans for the simplification of Army clothing in case of a serious supply situation, Gen. Corbin replied: "We do not want to lower our standards. We did that during the last war. We lowered our standards then and we had a lot of woolen uniforms and blankets made out of carpet wool. When the emergency was over we had all that junk left on hand and we have been living on that junk ever since the last war. In this emergency we want to buy high-class goods so that when the war is over and the warehouses are full to overflowing with goods which we will have to use during the next 15 or 20 years, we will have good material left. Of course if an emergency arose requiring an increase of the Army to 4,000,000 or 5,000,000 men, we would have to lower specifications."

The General stated, in answer to a question whether the Quartermaster contemplates further difficulties in getting sufficient 8.2 oz. twill, that they were going to estimate their requirements very closely and see if they could get along with less. The Quartermaster Corps was disappointed that it didn't get more offered on its last opening of bids for this particular fabric, but is going to re-figure that and may come back and ask the industry to give the Government what the latter actually needs, and no more.

Gen. Corbin estimated that about 40% of the capacity of combed yarn spinners is being used at the present time for national defense and that the other 60% is approximately what the industry was really producing before it started on defense goods. In other words, he figures that that 60% was what was being supplied for civilian use and that that same amount is still being supplied for that purpose. Consequently, he stated that up to the present time he does not feel that the defense program has interfered with civilian demands.

"We have tried not to let our program interfere with civilian demands," he stated, "and in most industries we do not like to take more than 50%. We like to keep commercial business going so that when the emergency is over you will not find yourselves flat on your back, but still having normal commercial business."

"One thing that always interests an association like yours," Gen. Corbin said, "is: What are your future requirements? How long can we count on these national defense orders? If you could tell me how long the emergency is going to last, I could answer your question. My best estimate of the situation is that our requirements for combed yarn will continue at approximately the present rate for the duration of the emergency.

"You realize that one of the biggest demands for combed yarn is for cotton khaki cloth, as well as many other things which it goes into. We need cotton khaki cloth for overseas garrisons for as many as five pair of trousers and five shirts each; in this country we issue four pair of trousers and four shirts to each soldier. You can see the tremendous amount of clothing that takes. But issuing clothes for each man does not mean supplying the demand. In order to fit this large number of men with clothing, we have to have a reasonable supply at the post, camp and station, a supply at the depots, and also making the cloth into uniforms to be issued to the men requires considerable time.

"The large contract we have now for cloth is not for use this summer but next summer. That is one reason why we don't extend the contract to next summer. Then we start contracts for the following summer. Our requirements for this coming summer are in excess of 1,500,000 men. We don't know what the Army is to be, whether it is to be any larger than at present, but we must have a reasonable reserve to meet a reasonable increase in the Army. We have in the present requirement a small reserve but not a large one."

As later amplified in the question and answer period, as noted above, the General estimated this leeway at 500,000 men over the present Army of 1,000,000 men.

Sees No Cotton-Goods Shortage

Russell Fisher, N.A.C.M. head, at annual meeting calls civilian supply adequate

NOTHING IN THE PICTURE indicates a general shortage of cotton goods for civilian use, stated Russell T. Fisher, president of the National Association of Cotton Manufacturers, at the annual meeting of the association in Boston, Oct. 9. Analyzing the effect of defense needs upon the cotton textile industry, Mr. Fisher said:

"The defense program, as you know, is taking millions of pounds of cotton textile products. It has been estimated that direct takings by the Government account for from 10 to 12% of the industry's normal production. In addition there is a large amount going to defense indirectly, through the use of cotton as a component part of other products. There have been various estimates as to how much production this might be, but it is probably not more than 20%. If these estimates are at all accurate, and I believe them to be reasonably so, probably about 30% of our normal capacity is now being operated on defense production. Offhand, this might appear to indicate curtailment of civilian supplies. Actually, I do not believe that will be the case.

"If we assume the normal requirements of the country to be the equivalent of seven million bales, which incidentally is the approximate average of the five years ending 1940, then to take care of defense requirements in addition to normal demand it would be necessary to step up consumption about 30%. As a matter of fact, consumption for the year ending July 31, 1941, was 9,718,000 bales, or an increase of approximately 38%. It seems clear, therefore, that the civilian supply of cotton goods has been and will continue to be adequate. It is quite possible, of course, that there may be temporary shortages of particular items, and there may have to be some substituting of one fabric for another, but nothing in the picture indicates a general shortage."

This expansion in the domestic use of cotton was the subject of the report of the Cotton Committee, prepared for submission to the meeting. The report said in part: "The consumption of 9,718,000 bales by the industry as a whole establishes a new record for domestic consumption. While far from a record year for the northern mills, the consumption of 1,147,000 bales in this section is the largest for any year since 1929. Exports, which totaled only 1,084,000 bales last season, were the least since comparable data first became available in 1867. The carryover on Aug. 1 of this year was about 12,353,000 bales, of which all but 140,000 bales were American cotton. This is substantially larger than last season's carryover of 10,600,000 bales. The export subsidy placed on cotton, combined with the moderate size of the 1941 crop may serve, given a continuing of the present high rate of consumption, to reduce this burdensome carryover somewhat."

Russell T. Fisher, president N.A.C.M.

A WELL-BALANCED PROGRAM, covering the major problems facing the members of the association at this time, had been planned for the meeting. These topics included priorities, labor, taxes, the defense program, and price control. The speaker scheduled for priorities was W. P. Homans, district manager of priorities for the New England district. The labor phase was discussed by Archibald Cox, of the National Defense Mediation Board. E. V. Hickey, manager defense contract service, OPM, for the New England district, explained how his department is concerned with the cotton textile industry. Ralph E. Loper, cost consultant for cotton manufacturers on several of the ceiling price schedules, outlined price control as it now operates. Elbridge A. Bollong, of Stewart, Watts & Bollong, made a comparison of the provisions of the new tax bill with those of the 1940 bill, to enable the members to judge more clearly the preparations necessary to take care of the new and enlarged levies.

The banquet speaker was Gen. C. L. Corbin, Assistant Quartermaster General, and chief of the supply division.

J. Frank Morrissey presided at the morning session, while Robert Amory presided in the afternoon. The committees serving for the meeting included: *Program:* R. C. Dick, chairman; C. F. Broughton, Frank R. Fitz, and John F. Greene. *Nominating:* Seabury Stanton, chairman; Amory Coolidge and Samuel Powel. *Resolutions:* Hervey Kent, chairman; P. S. Howe, Jr. and H. S. Newcombe. *Medal:* Jewett B. Newton, chairman; Frank W. Lyman and J. Frank Morrissey.

Election of officers resulted as follows: President, Russell T. Fisher; vice-presidents, C. F. Broughton and Ralph C. Perkins; directors for three years, W. Emerson Barrett, Lawton S. Brayton, Albert H. Crossman, R. C. Dick, and J. Frank Morrissey.

The wage differential between northern and southern mills, to the disadvantage of the former, was emphasized by Mr. Fisher, in his banquet address, as a most serious problem facing the New England Mills. He concluded:

"This places a grave and serious responsibility on the leaders of labor in this area. I hope they are big enough to assume the responsibility, and that they will take upon themselves the obligation of working out a wage schedule that will put our mills in a fair competitive position with southern mills. These labor leaders not only have a responsibility to the mills in this section, but a much greater and more personal obligation to the people whom they represent.

"For its part, management must continue the modernization program that has kept our mills in good physical condition."

Price Ceilings and Rayon Rules

Are among recent developments in textile picture in Washington

THIS IS HOW the textile material and prices picture looks—until it is changed: (1) The Office of Price Administration (Leon Henderson) has a formula (43 points in cotton = ½¢ a lb. in cloth) for adjusting ceiling prices of cotton gray goods to the market price of spot raw cotton. (2) OPA has issued a flexible ceiling schedule on carded cotton yarn. (3) The strictest rules are in force under the Division of Priorities, on the release of silk for other than defense processing. (4) Priorities Division has issued an order changing the manner in which rayon yarn is to be made available to former users of silk. (5) Henderson announces his approval of a rayon yarn price increase of about 4% by leading producers. (6) Sidney Hillman, OPM Labor Division Director, is still trying to alleviate the silk unemployment problem.

Mr. Henderson's ceiling schedule on gray goods, under his projected formula, will adjust "automatically" to the spot raw cotton market, and it will cover only those items in Schedule No. 11. Discussions have been held with combed and carded cotton yarn men with a view to tieing in yarn prices also with the price of cotton. The existing schedule remains in force until the amendment is issued. The proposed sliding scale ceiling was approved by the Cotton Textile Advisory Panel, representing all branches of the industry.

The starting base will be 43¢ per lb. for standard print cloth and 15.99¢ per lb. for cotton. On the basis of current market prices for cotton, this will mean a maximum price of 44½¢ a pound for print cloth. The formula provides for a change of ½¢, upward or downward, in the ceiling price for every change of 43 points in the price of spot raw cotton on 10 spot markets as reported by the Department of Agriculture. Decision to tie the prices of yarns and gray goods to cotton prices was reached after cotton prices moved up and spinners and weavers requested ceiling adjustments.

Ceiling prices for carded cotton yarn were announced for the "near future" on Sept. 9. The schedule was issued Oct. 4. It provides for a base price set upon an average cotton spot price of 15.99 to 16.43¢, with a rise and fall of 43 points in cotton effecting a change of ½¢ a pound in carded yarn. At the base price, 20s single has a ceiling of 38¢, and 20s plied, 42¢. A formula is being worked out for application to combed yarn ceilings.

THE SILK FREEZE ORDER, of course, has affected rayon yarn allocations and prices. It all started July 26, when OPM limited the processing of thrown silk to levels set during that week. The following week came the Army's and Navy's discovery that their needs for the next two years were just about equal to existing stocks. Then followed an amendment to the general order, "No person shall after 12 o'clock midnight on Saturday, Aug. 2, 1941, throw, spin or otherwise process raw silk, unless specifically authorized by the Director of Priorities."

On Aug. 27 the silk order was again amended to permit changes of title—but not allowing any movement of the goods. Then, in mid-September, OPM ordered that some opened stock could be sold, upon permission from Frank Walton, Chief of the Textile Branch, OPM. Mr. Walton said this modification was made because some additional stocks had arrived; because it would help the mill employment situation; and because it is difficult to repack opened bales for defense use. No silk in original bales can be delivered to anybody except the Defense Supplies Corp. (part of RFC) which in turn sells it to Army and Navy, who furnish it to processors for defense goods.

Incidentally, some informed observers believe that Japan is weakening rapidly under the Anglo-American economic squeeze, and they wouldn't be surprised if silk is flowing to this country again within a year. But that's mere speculation.

On Sept. 25, OPM Priorities Division announced its formula for allocating rayon yarn to former silk users, and it became effective Oct. 1. The order replaces the temporary program worked out shortly after the silk-freeze order.

In brief, it directs that the quantity of yarn set aside for former silk users be measured by length rather than by weight, and it provides that both hosiery and non-hosiery manufacturers get the yarn best suited to their needs.

Instead of setting aside 10% of total production, the producer of viscose or cuprammonium yarn is to set aside fine yarn equal to the production of 9% of his active spindles—excluding from this total the spindles necessary to fill any defense contracts he may hold. Yarn thus set aside is to be disposed of as follows:

An amount equal to 0.9% of total spindle production is to be held for disposition according to instructions from the Director of Priorities. This continues the pool of yarn for "undue hardship" cases, which the previous program built up by taking 1½% of total production in pounds. An amount equal to 0.45% of total spindle production is to be made available immediately for purchase by former silk users who make articles other than hosiery. Balance of the amount set aside—7.65% of total spindle production—is to be made available immediately to hosiery mills.

Similarly, the producer of acetate rayon is to set aside fine yarn equal to 5% of his total active spindle production—with spindles needed to fill defense contracts again excluded from the count. This yarn is to be disposed of as follows:

An amount equal to 0.5% of total spindle production goes into the "undue hardship" pool. An equal amount is to be made available for immediate sale to hosiery manufacturers.

The balance—4% of total spindle production—is to be made available immediately for sale to former silk users who make products other than hosiery.

Producers who have in their possession yarn set aside for "undue hardship" cases on the old 1½% basis are instructed to continue to hold this until it is allocated by the Director of Priorities. If it is not allocated by Nov. 1, it may be sold to any purchaser.

None of the yarn held in the "undue hardship" pool may be sold except when specifically authorized by the Director of Priorities. The order provides that a manufacturer who accepts an unauthorized delivery of such yarn, or who otherwise violates the provisions of the order, may be prohibited from obtaining further deliveries of yarn from the pool.

An important part of the order is the

OEM Defense Photo

R. R. GUTHRIE, a director of Allied Stores Corp., New York, was appointed Assistant Director of Purchases, in charge of the Textiles, Clothing and Equipage Branch (of Purchases). There are several sections of the TCE Branch, of which one is the Textiles and Fibers Section, Frank Walton, chief consultant.

provision of a basic monthly poundage which the former silk user may buy. A formula is set up by which all purchases of the yarn set aside under this program must bear a direct relation to the purchasing manufacturer's, jobber's or converter's previous consumption of silk, the relation varying with the denier.

Purchasers are required to fill out certificates, giving the information from which it may be calculated whether the amounts being bought are within the basic monthly poundage limit; and no rayon producer or jobber may make a sale of yarn set aside under this order unless he first receives a certificate from the purchaser. A manufacturer may not buy from all sources put together more of the reserved yarn than his basic monthly poundage; nor may he own, at any time an amount of reserved yarn in excess of that poundage.

Henderson approved increases averaging just under 4% in the prices of rayon yarn announced by a leading producer. His office had previously objected to somewhat larger advances proposed by some branches of the trade. Present yarn price increases, Henderson says, are not enough to justify any upward revision of recently-established rayon gray goods ceilings.

The Price Administrator amended the schedule by omitting the requirement that gray goods sellers include in sales contracts full details of construction of fabrics not included in the maximum price schedule, in order to protect originators of new weaves against imitators. Weavers will, however, report details to OPA and retain their own records as before.

In the interest of workers unemployed because of the silk freeze order, employer-labor meetings are being held in the silk cities, and industries there, mostly garment makers, have already agreed to take 1550 of them. Sidney Hillman, OPM Labor Division director, is having many of them re-trained under the labor training program.

The Bureau of Clearance of Defense Industry Advisory Committees' last month announced the formation of a Rayon Producers Defense Industry Advisory Committee. Members of this committee have been meeting with the Silk Substitution Section of OPM. Membership of the committee is as follows: J. E. Bassill, Tubize Chatillon Corp.; C. McD. Carr, American Enka Corp.; M. P. Epstein, Industrial Rayon Corp.; Charles S. Fowler, Hartford Rayon Corp.; Hubert Kernan, Skenandoa Rayon Corp.; George R. Lockhart, Woonsocket Rayon Co.; W. B. Olmstead, American Viscose Corp.; Col. Harry Price, Celanese Corp. of America; Leon H. Ryan, Delaware Rayon Co.; J. C. Stone, Tennessee Eastman Corp.; Charles Wolff, North American Rayon Corp.; L. A. Yerkes, E. I. duPont deNemours & Co.; Paul L. Zens, Imperial Rayon Corp.

"The new Order is a Priority Order and any false statement or representation wilfully made thereunder by any person seeking an allotment of rayon yarn will subject such person to the penalties provided for in the U. S. Criminal Code.

"The provisions of paragraph (c) (3) which starts with the language 'Any allocation made by . . .' refers to the so-called Government pool of yarns intended to give relief to cases of 'undue hardship.'

"The amount of rayon yarn made available to hosiery manufacturers as substitutes for silk (other than cases which can qualify as of 'undue hardship') is described under (c) (ii) (c) as equivalent to the production of 7.65% of the total number of spindles.

"Except when a manufacturer is seeking yarns from the limited Government pool set up to take care of cases of 'undue hardship,' the procedure to be followed by our manufacturers is described under (c) (4) (ii) from which we quote as follows:

"'No producer or jobber shall deliver fine rayon yarn . . . to or for the account of any manufacturer unless:

"'(ii) Such producer or jobber has first received from such manufacturer a certificate in a form to be prescribed by the Director of Priorities, accompanied by such duplicates or copies thereof as the Director of Priorities may prescribe: *Provided*, That delivery shall not be made in such latter case, if the producer or jobber knows or has reason to know that the yarn to be delivered is in the aggregate in excess of the equivalent of such manufacturer's basic monthly poundage, or, together with stocks on hand, will increase such manufacturer's inventory of reserved yarn in the aggregate to above such equivalent. The producer or jobber shall be entitled to rely upon any facts stated in such a certificate in the absence of actual knowledge or reason for knowledge to the contrary.'

"As the hosiery manufacturer will frequently find it necessary to go to more than one rayon producer in order to secure his requirements in part or in whole, we suggest that he first contact his sources of supply, one at a time, by telephone or otherwise, stating the amount sought under his certificate and advising that he is prepared to furnish such certificate. By this procedure he will send certificates only to those sources which have indicated their ability to take care of his needs in part or in whole, and the aggregate amount sought under one or more of his certificates will be within the total to which he is entitled and there will therefore be an avoidance of duplication."

Mill Reaction to Rayon Rules

Present plan regarded as superior to first one by silk users

DESPITE a certain number of complaints against the new rayon order outlined above, the general reaction among hosiery manufacturers, weavers, and warp knitters who were formerly important consumers of silk was that a step forward had been taken, and that the new arrangement was infinitely better than the very unsatisfactory situation which preceded it. Obviously, it was recognized that the plan would not fill all the needs of the former silk users, but the prevailing attitude was that OPM had done as well for them as was reasonably possible under today's circumstances.

There was bound to be considerable misunderstanding about so difficult an order. Consequently, the letter sent out by the National Association of Hosiery Manufacturers to its members the day after the issuance of the order was particularly helpful. The letter was accompanied by a copy of the order itself, and explained or amplified its clauses. The letter said, in part:

American Originals 1941, Sans Paris

This fall's fashions are strictly U. S. A. —useful, salable and American

GONE ARE THE ALLURING NAMES of Balenciaga and Vionnet, gone the ultralavish beads—30,000 to a gown, each one sewed on by hand—and gone the elegant tissues (fabrics) of the once-great French couture. Into their place have moved dozens of speedy American "designers" (or, should we say, copyists) and thousands of well-paid operators to transform our mass-made fabrics into clothes for millions of women to buy.

During the first two weeks of September, the Big Six of America's fashionable retailers presented their "Originals." Without Paris this time (a year ago our clothes still leaned heavily on French ideas), we saw what and how we do on our own. These fine emporiums of upper Fifth Avenue presented sophisticated, figure-flattering clothes in a completely business-like manner. Their purpose is obvious. They want to sell lots of the clothes—and soon. Tomorrow their investment begins to wane for it will be copied and sold from coast to coast.

In attempting to draw comparisons between the styles of this fall and those of days of yore, the fashion writers have unearthed two bases. One is the "7-year cycle," believed by some to be about the life-time of a fashion trend. The simple, middy-blouse, uniform type of dress that has cropped up this fall is the same dress, basically, that made Chanel famous in the 1920's. The other hook, as you may already have guessed, is the similarity between clothes now and those of the First World War when women wrapped-and-held-themselves into a coat and when Irene Castle danced in a long, tight satin skirt with a knee-length overskirt of fluffy tulle.

In any event, these *are* among the things shown at the openings. To select other sponsored themes, there was much ado about the slim silhouette for daytime and, as usual, both slim and bouffant for evening; the colors were bright and clear, in general, with a great deal of emphasis on the red family; the Chinese influence played an important part in coats and jackets; and suits, or dresses with peplum and tunic treatments, were abundant.

The fabrics used for clothes of this type—and for the draped skirts which carried over from last season—were soft woolens and rayon crepes (a few silks, too) that have a good body and hang well. Corduroy and velveteen were shown a good deal and, for evening, the traditional satins, failles, nets, velvets and laces were used. Over all, it was not too exciting from the fabric standpoint.

Unquestionably, the most praiseworthy side of this fall's fashion picture is the millinery. Here, we find abundant variety, loads of color and much to talk about. Always a controversial matter, this year it has had an unusual amount of publicity. So many different styles are shown that *any* woman can have a fashionable hat that is becoming.

ONE HIGHLY SIGNIFICANT SIDELIGHT on fashion this year is the fact that women are devoting so much time to civilian defense. After all, when the ladies who have been playing bridge in beads and feathers delve, in a body, into canteen kitchens and First Aid classes it necessitates considerable change in their wardrobes. Women's service activities call for simple, sturdy clothes—serviceable in color, that don't wrinkle easily. Perhaps it wasn't chance but necessity that suggested to designers that they should create uniforms, coveralls and slacks. Fabric-wise, this means more gabardines, worsted suitings, denims and other robust cottons.

There's another side to the "Women in Defense" picture, too. While it may be utterly patriotic to don dungarees in the daytime—or to wear sack clothes and sandals in order to free looms for defense fabrics—it is even more so to use every ounce of dash and glamor to "make everything all right" when there's a respite from work and worry. This means that women want gay lounging togs for restful evenings at home or devastating party clothes for "going out." So, nestled among this fall's fashions is a goodly sprinkling of both. For instance, the gown illustrated here, while not elaborate, is made from the fabric most flattering to a woman's skin: velvet. In addition, it is designed to emphasize that element of feminine allure called sex appeal.

A BENDEL ORIGINAL—Black velvet evening gown with panel of pale blue satin shown by Henri Bendel, New York, on Sept. 4

If the fabrics of American Originals—1941 are not very original, it should be remembered that they are at least our own and of today. If today we need fabrics that wear well for daytime, are sufficiently elegant for raising morale in the evening, and may be had by everyone, then perhaps we should consider them in our light rather than by comparison to the old French standards of "beauty first."

As Americans, we all know that in our ingenuous land the available thing—the practical thing—will be "in fashion." In the silk hosiery panic of a few weeks ago, women seemed to forget this—but only for a few days. They know that if silk stockings are gone and nobody is wearing them, they won't either. For not wearing silk stockings is rapidly becoming quite the thing.

QM Works on 1943 Fabric Needs

Budget to be submitted to Congress in January may be for much larger army

CLOTHING AND EQUIPAGE requests to be included in the War Department's fiscal 1943 budget, which will be submitted to Congress shortly after New Year, are currently engaging the Quartermaster. But no comment on the size of the request, or the items to be emphasized, is available. High officials in the Quartermaster Corps told TEXTILE WORLD that they doubt if even the President or any one else has made up his mind whether to procure equipment for a vast American Army which might be needed to effect the ultimate defeat of the Axis.

As this is written, Andrew J. May, chairman of the House Military Affairs Committee, is recommending that the United States send 100% of its war production to those who are fighting the Axis. Some officers in the Army said they agreed with this, because there is no use in supplying our Army, at parade-rest, when other armies need the stuff. It is known, however, that QM plans are on paper to procure quantities of equipment, including textile goods, far greater than any thus far undertaken.

The writer has learned, beyond doubt, that *some* textile goods are going to anti-Axis powers under the Lease-Lend program. Most probable recipient is China, and the most probable top item on the list is blankets. It is not likely that any foreign uniforms are being made in this country, but cotton and wool cloth, sox, underwear, raincoats, and many kinds of equipage, may also be going. The procedure is this: (1) Lend-Lease headquarters decides whether any anti-Axis power is eligible to receive what it asks for; (2) OPM decides whether the goods are available and can be spared; (3) Quartermaster (in the case of textile goods) makes the purchases; (4) Lend-Lease makes the shipment.

Russia, up to now, is not a Lend-Lease eligible. Congress was debating the question at this writing, whether the Soviet can be classified with the "democracies" for purposes of the Act. A favorable outcome seemed little in doubt. If the Russians fight on, they might need large quantities of textile equipment. As for Britain, Quartermaster officers expressed doubt that she would ask for anything in the textile line.

QM STILL IS RESISTING any urge to encourage textile plant expansion. Cotton duck is still a worrysome item; a small quantity has been bought in Canada. Yet, the Army feels that when it does get enough duck, the total U. S. requirement will slip back to a point where any expanded plant would be a millstone around the owners' necks. Incidentally, the duck cloth produced in Canada is made of American cotton.

The Army is interested in a development of an 8 oz. wind-resistant, plain-weave, cotton fabric to replace the 10.2 oz. duck in clothing. Reason; shortage of duck looms. The fabric would have a gray construction of 108 x 60, made of good quality, long-staple, carded cotton yarns. It is fully shrunk, dyed O.D. and treated for water repellency.

While there is no plant expansion in sight, the Priorities Division of OPM did grant a rating of A-10 on maintenance and repair parts for textile mills. This was done because continued operation of the mills is vital to both civil and military welfare. This priority, and its relation to the general priorities program, is described in an article on page 67 of this issue.

Carded yarn for uniform cloth is still a critical item. An interesting observation on this, by a procurement officer, is that the 40% increase of spindles in operation has given the Army somewhat less than what it wants, and continues to give civilians the amount they always got. This is not all the civilians want now, because they want more than they did months ago.

One of the newest problems is vat dye. There is a shortage, and two or three mills have had to shut down for unstated periods. Some sources indicated that vat dye would be put on the critical list and subjected to some form of priority. Nevertheless, this writer found that high Quartermaster officers did not consider the problem serious.

On 20 oz. duck for leggings it is now required that vat dye be used instead of mineral dyes. A million yards is already on contract and will have to abide by new regulations. Reason for the changed regulation is to achieve depth of color desired and lowered visability in the field. Mosquito netting is now being ordered in O.D. for the same reason. In fact, a lot of mosquito bars are now being redyed to the olive drab color.

Another question is whether the Quartermaster shall accept bids tendering gray goods at higher than the ceiling prices set by OPA. This is a touchy one—the Army would violate the law if it paid more, and that would be bad, in the present controversial stage of price legislation.

Bids were opened Sept. 19 at the Jeffersonville Quartermaster Depot on 39,218,000 yds. of cotton duck. This order was in excess of the full year's production of Army duck in 1939. Bids listed totaled only 6,867,500 yd. Although about 20 other mills not listed participated in the bidding, it appears probable that the invitation was undersubscribed by a considerable margin.

CLOTH YARDAGE AND COSTS

1941 Regular Funds

	Quantity	*Amount*
Cloth, HBT	18,535,769	$ 5,241,803
Cloth, Cotton Khaki	52,750,748	20,418,165
Cloth, Cotton, Wind Res.	9,688,584	4,989,464
Overcoating	7,872,942	19,577,353
Shirting, Wool	15,658,027	26,117,193
Wool Serge, 18 oz.	23,775,173	62,599,081
Duck, Cotton WR	4,265,000	1,202,805
Totals	132,546,243 yds.	$140,145,864

Deficiency—1941

Duck, Cotton	1,619,000	$ 670,869
Cloth, Cotton HBT	18,680,000	5,483,513
Cloth, Cotton HBT, WR	1,320,000	532,224
Cloth, Cotton Khaki	39,377,083	18,654,645
Cloth, Cotton Wind Res.	3,300,000	1,657,290
Lining, Wool	3,180,000	4,869,650
Overcoating	3,200,000	7,654,778
Shirting, Wool	6,830,000	12,349,803
Wool Serge, 18 oz.	9,940,000	28,456,757
Totals	87,446,083 yds.	$80,329,529

5th Supplemental—1941

Cloth, Cotton HBT	6,905,000	$ 2,200,334
1941 Grand Totals	226,897,326 yds.	$222,675,727

1942—Regular Funds

Cloth, HBT	31,498,000	$10,850,948
Cloth Cotton HBT, WR	1,425,000	631,900
Cloth Cotton, Khaki	44,107,332	24,738,184
Cloth Cotton, Wind Res.	4,000,000	2,006,045
Overcoating	3,500,000	8,613,775
Shirting, Wool	5,000,000	8,778,970
Wool Serge, 18 oz.	6,000,000	16,989,675
Duck, Cotton O.D., WR	240,000	112,536
Total	95,770,332 yds.	$72,722,033

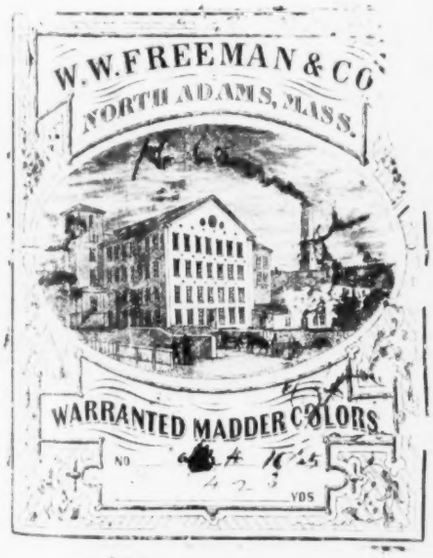
(HBT, herringbone twill; WR, water repellent)

"Ante-Bellum" Prints from Old Store

Patterns 80 years old disclosed when auction opens doors closed in 1863

A COUNTRY STORE, belonging to a Mr. Titus at Webutuc, Conn., was closed over tax litigation in the Civil War period (probably in 1863). Last year, when an estate in which it was involved was finally liquidated, the contents were auctioned off and a number of interesting textile prints came to light after almost 80 years on the shelf. We are indebted to George Leary, of Wilton, Conn., who now owns the pieces, and Thos. H. Ormsbee, editor of the *American Collector*, for the opportunity of reproducing a few of the patterns of these "Ante-Bellum" textiles.

We show also the ticket of W. W. Freeman & Co. of North Adams, Mass., which appeared on one of the pieces. Several samples are from Passaic Print Works and Hamilton Print Works and many were unidentified. The color effects are interesting, particularly an ombre treatment which is noticeable on two of the floral patterns.



J. A. Moore Heads Carded Yarn Group

SNAPPED AT CHARLOTTE: (left to right) J. A. Moore, elected chairman, Carded Yarn Group; James P. Davis, OPA (standing); Owen Fitzsimons, secretary; R. C. Forrest, the retiring chairman. (Photo by "Charlotte Observer")

J. A. MOORE, treasurer of Edenton Cotton Mills, Edenton, N. C., was elected chairman of the Carded Yarn Group at the annual meeting held in Charlotte, Sept. 30. Mr. Moore succeeds R. C. Forrest of the Uniontown, Ala., plant of the California Cotton Mills Co. Owen Fitzsimons, of Charlotte, was reelected secretary.

Approximately 1,000,000 carded yarn spindles were represented in the attendance at the meeting, which began in the morning with a business session and included a luncheon at which the principal speaker was James P. Davis, assistant administrator for the Office of Price Administration.

Mr. Davis, who was introduced by W. N. Banks, president of the American Cotton Manufacturers Association, told of the work of the OPA and answered numerous questions from manufacturers in regard to their problems.

Speaking before the yarn ceilings were set, he said that technical committees will be appointed to represent the industry, one for the combed yarn manufacturers and another for the carded yarn group, and that these committees will work on a number of matters that may need clearing up. He pointed out that the ceiling to be established on carded yarns will not apply to exports and said that the question of adjustments on ceilings for double carded yarns is a matter that the technical committee should work on.

Mr. Banks paid a tribute to Mr. Davis' attitude, stating that "in him we have a man who wants to do the right thing and wants us to get a fair and reasonable profit, which is all we can ask."

He also stated that the new method of adjusting yarn and cloth prices automatically to price changes in raw cotton should do much to stabilize the industry.

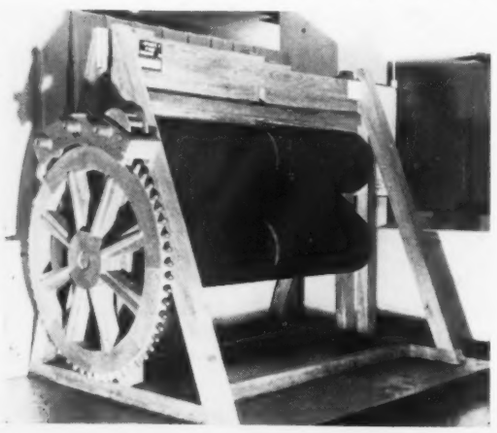
The new chairman, Mr. Moore, presided at the luncheon meeting and paid tribute to the work done by his predecessor, Mr. Forrest, and by the secretary, Mr. Fitzsimons, during the last year.

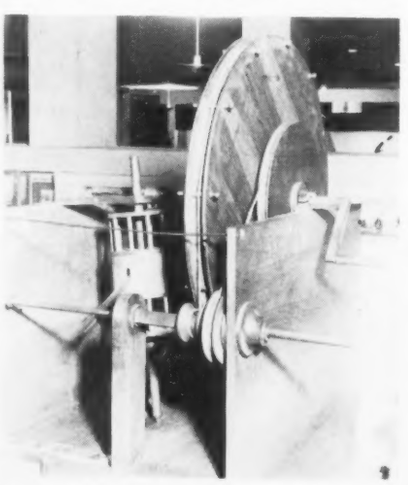
Textile Patents of 400 Years Ago

MODELS OF MACHINES designed by Leonardo da Vinci for various processes involved in the manufacture of textiles have been shown at the exhibition of the famous scientist-painter's work in mechanical and industrial fields at the New York Museum of Science and Industry, in Rockefeller Center. Da Vinci is better known as the painter of the "Mona Lisa" and "The Last Supper." He lived over 400 years ago.

The models, all of which were reconstructed in full size from original drawings and instructions found in da Vinci's notebooks, are a flying spindle, two machines for raising the nap of cloth, a cloth-shearer or nap-trimmer, and two cordage mills. The nap-raising machine shown has a double row of cylinders, and as the cloth is wound from one to the other it is drawn over the surfaces of burrs. The two cordage mills are built for 18 and 3 strands respectively, while the flying spindle proves that da Vinci had worked out this method of winding thread on spools.

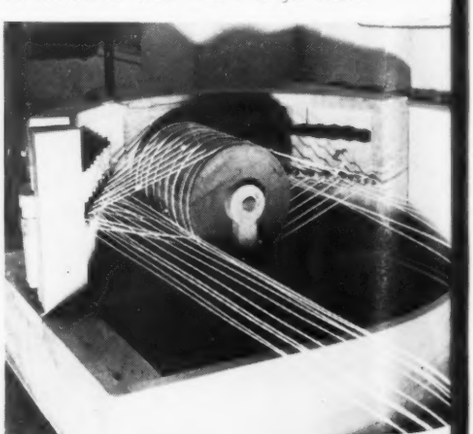
NAP-RAISING MACHINE: As the cloth was moved along under the wooden beam by the turning of cylinders, burrs set on the under side of the beam brushed the nap. This machine was operated by water power

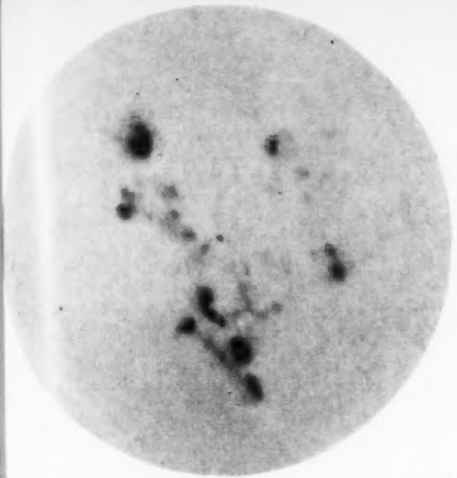




FLYER SPINDLE: Forerunner of the modern flyer spindle, this machine employed a somewhat complicated system of gears and movements which wound thread on a spool by revolving the spool and at the same time moving it back and forth

CORDAGE MILL: A machihe for twisting 18 strands of cord into a single strand





Part of sun showing spots, photographed Sept. 16, 1941 (Amer. Museum of Nat. History)

Sun Spots and Textiles

New theory on causes of difficulties in textile manufacturing needs exploration

THAT SUN-SPOT DISTURBANCES have an effect on radio reception is known. That sun-spot disturbances have an effect on the strength and other properties of textiles is the startling theory advanced by Peter M. Strang, in the October issue of *Textile Research*. If this theory is proved to be sound by further research and experimentation, it will account for difficulties in textile manufacturing which hitherto have been inexplicable and may lead to major changes in textile mill practices. An abstract of Mr. Strang's paper follows:

During the spring months of 1938 and 1940, New England cotton mills had trouble in maintaining both the quality and production of their goods. Spinners of rayon and wool were encountering similar production problems. In the South, cotton manufacturers commented on a falling off of yarn strength and the fuzzy appearance of the yarns, but the difficulties of manufacture do not seem to have been generally as extreme as they were in the North. New England manufacturers could not maintain yarn strength, the spinning end breakage per thousand spindles per hour increased, loom efficiency decreased, and quality suffered.

While cotton was being condemned by some manufacturers, other textile men were blaming their troubles on mechanical adjustments in the plants, defects in the mill supplies used, and, the design and engineering of equipment. After checking machine speeds, roll settings, drafts, amounts of twist used, and other mechanical factors in the processes, the experts from a machine company in one instance contended that the only trouble they could find was with the cotton, whereas the cotton department of this plant was able to prove that the same mix of cotton had been spinning satisfactorily for a month previous to the drop in yarn quality.

At the same time the New England textile industry was having difficulties in manufacture, the telephone, the telegraph, and the power companies were also experiencing unusual difficulties in the operation of their systems. Dr. A. G. McNish, of Carnegie Institution, determined that magnetic storms caused by sun spots were the sources of these disturbances.

The whole textile industry was in territory affected by these magnetic storms; but the intensity was from 2 to 2½ times greater in northeastern textile areas than it was in southern textile regions. Operators of a group of mills in New England spinning and weaving staple rayon reported extreme trouble for which there seemed no reason. One mill in Ontario had to shut down some of its processes one morning during this period because excess static would not allow the fibers to draft properly. While a Massachusetts mill was having great difficulty in operating, a Georgia mill, using cotton from the same territories and purchased by the same buyer, reported but slight trouble.

Since the great magnetic storm of March 24, 1940, occurred on a Sunday when most textile plants were closed, the question of any possible correlation between textile operation and the effects of sun spots arises. However, Dr. Clifford N. Anderson, of Bell Laboratories, states that the time required for the disturbing emission from the sun to reach the earth may be much greater than is usually assumed. The velocities of these particles from the sun may range from about 12 to 1,250 miles per second and the transit times from the sun may range from a few days to as much as three months. This explanation may reasonably account for the period of several weeks in which textile manufacturers had difficulties after the recorded effects of the magnetic storm on transmission lines.

STATIC HAS LONG BEEN RECOGNIZED as a hindrance in textile manufacturing and its presence is indicated in yarn by fuzziness and a reduction in breaking strength. It has been established that there is a daily cycle in the amount of ionization of the air and there is also an annual cycle. The amounts of ionization vary with the latitude. They are at a minimum at the equator and increase towards the magnetic poles. The amounts of ionization at any place will also be dependent upon the altitude and the amount of foreign matter in the atmosphere. The spread of the daily cycle is much smaller than the spread of the annual cycle, being about one third as great.

DAILY AND ANNUAL VARIATIONS in textile manufacture and variations in manufacture due to plant location seem to be parallel to the known variations of the ionization of air. The fluctuation in the ionization of the air offers an explanation as to why textile fibers behave differently in divers sections of the country and throughout the day. The variation in ionization due to altitude may account in part for the differences in yarn tests made at different altitudes. The fact that the same cotton will not give yarn of equal quality throughout the year may be considered in light of the annual cycle in the ionization of the air. The reported varied effects of the magnetic storm seem to follow much the same pattern as the usual variations in ionization. That is, indications are that sun spots accentuate an atmospheric condition which normally affects textile manufacturing to a much less degree.

Ionization of air may afford southern mills an advantage of different machine speeds, less work per operative per pound of product, and less variation in quality of product, over New England mills making comparable goods. The need of maintaining a supply of raw materials of uniform quality becomes more evident, and, if raw materials of poorer quality are acquired, they should be used at those times when the fewest ill effects will be noticed. In any national textile program, results of research made in the South may not at once be applicable to the industry in the North. There is the possibility than sun spots and ionization of air may in some way affect cotton fibers during their growth. Much correlated research is required on the subject of sun spots and ionization of air to determine just how they affect textile fibers and textile manufacturing processes.

Mill Laboratory Gives Results

Maintenance of uniformly high quality of product is one of many functions

By HENRY D. EVANS, D.Sc.
Pepperell Mfg. Co.

WE ARE BUSY in the mill laboratory of the Biddeford, Me., plant of Pepperell Mfg. Co., trying to see that our materials are in such condition as to be processed with the least waste, with the least trouble to the operative, and with the greatest profit to the mill consistent with the greatest uniformity of quality possible with our particular type of goods. We are concerned with maintaining the quality of our goods at least as high as that attained by any of our competitors. We are concerned in seeing that our customers are kept satisfied; that justified complaints are properly adjusted; that, where they are not justified, the customer has full information as to where the trouble lies, and, where the complaint is justified and due to a fault of the mill, that the condition is rectified. And, finally, we are concerned in seeing that anything that is claimed for our products can be backed up in fact, and that the enthusiasm of our advertising and sales branches does not run away with facts.

The kind of work a mill laboratory will be called on to do depends on the products of the mill itself—whether it is a spinning mill, a weaving mill, a finishing mill, or a self-contained unit processing everything from the original raw fiber to the finished product. It also depends on the types of fibers processed. Each of these mills has its own types of control.

Our Biddeford plant is concerned with the manufacture of three lines of sheetings, a small line of terry towels and wash cloths, and a considerable line of bed and crib blankets, ranging all the way from 100% cottons to 100% wools. Steady production of large amounts of yarns in a small range of numbers tends to a few standard roving organizations, all of which is conducive to closer yarn and cloth control than can exist in a plant making a large range of yarns and fabrics, as in a fancy-goods mill.

Wool stocks are tested for staple, fineness, and conformity to type samples by eye, ear, and hand. When stocks are to be blended with other fibers, more attention is paid to fiber diameters than when the wool is used as an entity. Dyes are tested for strength and truth of shade, but the manufacturer's word is taken in regard to fastness properties. However, the fastness properties of all color combinations as used in the mill are tested. All softeners are checked for their fat and sulphonation, for their reaction, and for the presence of free fat or oil.

CONTROL TESTING of cotton products begins at the slubbers, and from there on, each step in the manufacturing operations is followed right through to the cloth from the looms. Slubber, intermediate, and fly-frame rovings are tested for number as a routine procedure. Every day five bobbins of roving from a designated number of frames, so calculated as to cover all the slubbers each week, and all the intermediates and fly frames once every two weeks, come to the laboratory. In addition, when a frame goes off in production or is changed mechanically, its output is checked for roving number, and tests are made for evenness, tensions, and hardness before the roving goes back into production.

Daily samples are taken from both warp and filling spinning frames, with ten samples from each frame under test, and with enough frames under test to cover them all once in three weeks. Here again, whenever any kind of a change is made on a frame, checks are made before its product goes back into work. All yarns are tested for yarn number and break in the skein. Whenever anything wrong shows up in the skein testing, it is followed up in single-end, twist, and boarding tests. All yarns are tested at that point on the bobbin where experience has shown the strength to be the lowest. Filling yarns get no further testing. After dressing, warp yarns are checked for moisture content, added solids, and—in special cases—for residual stretch and single-end strength.

Twice each week all widths of all styles come to the laboratory in the gray to be checked for width, weight, sley, pick, break, and size content. After every loom change, the resulting fabric is checked before the loom is released for production, particular attention being paid to width, weight, sley, and pick. Weekly checks are run on fibers in the cloth construction.

All the above work is done with the primary object of helping manufacturing, or promoting production of standard woven cloth with the least possible trouble to the operating force and at the lowest possible cost to the mill. From the data furnished by all these routine tests many other things of value have been obtained as by-products. One example out of many will be enumerated as an example of the use that may be made of data accumulated primarily for entirely different purposes.

One of the vexatious things that a gray goods mill has to contend with is weight variation in the gray cloth. One week the cloth will be heavy, so the filling is lightened up. The next week the cloth may still be heavy or it may have lightened up, and the filling is again changed.

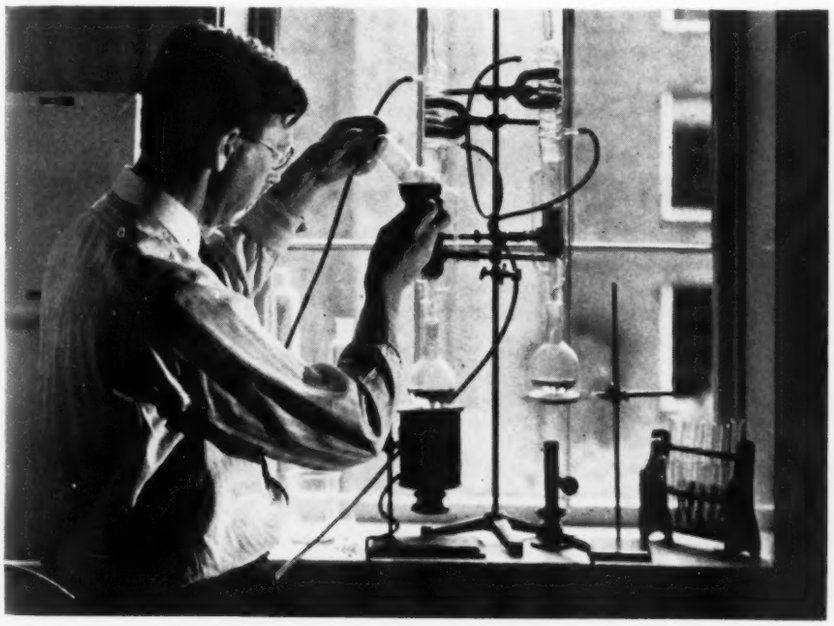
General mill practice is to control cloth weights from the cloth-room goods, but a study of cloth-room weights in themselves has never been of assistance in locating sources of weight variation. Grouping cloth-room weights by monthly averages over a series of years shows that goods have a tendency to run heavier from late spring to early fall, and to be lighter from late fall to early spring.

By converting cloth-room weights to pure dry cellulose on the basis of the average moisture and added size as revealed by semi-monthly analyses, the weight variations were found to be practically ironed out as long as the same stock was being dealt with. The result of this method of control has been practically the elimination of mechanical machine changes and the saving of large amounts of cotton, rayon, and wool which previously had been given away, together with a much more uniform bleached product both in weight and finish.

Bleached sheetings in all styles and widths are returned to Biddeford twice each month for check. They are examined for width, weight, sley, pick, mois-

Abstract of a paper presented at a recent meeting of American Association of Textile Technologists.

ture, size content, and breaks, and also for chemical damage. The examination of bleached goods was designed as a check on the uniformity of the chemical and mechanical treatments the goods were receiving, and for our own protection. To these ends a test was started on each of the Biddeford sheeting lines, in gray and bleached forms, which ultimately extended over more than two years. Each week a 100-yd. cut of each style of sheeting in the 90-in. gray width was sent to the bleachery. These cuts were measured, weighed, and tar-



Dr. Evans carrying out a test in the mill laboratory of the Biddeford plant of Pepperell Mfg. Co.

marked on each end, being a complete intact piece from which pieces had been taken for laboratory analysis for width, weight, sley, pick, moisture and size content, and breaks. From these data the exact cellulose content of the goods could be figured and later used as a basis for determining the weight loss in finishing. The bleachery processed the pieces as parts of regular 5-ton lots and returned them with the original tar marks in place. The same analyses were made on the bleached goods that had been made on the same goods in the gray. Thus reliable figures on stretch, contractions, and loss of weight were obtained, and it was found that many of the figures furnished by the bleachery were incorrect. Although stretch allowances had never checked with loss in pick, now that data from the same piece of goods in both gray and bleached condition was available, it was found that they did check. Also, wide variations in stretch and in finishing losses from lot to lot were found.

At the end of a year these conditions were brought to the attention of the bleachery, and, while no satisfactory answer was given, it was found that goods began to come through more uniform in construction and weight loss. A standard finished weight was adopted for each line, and these weights were figured back into the gray. Keeping within the sley and pick ranges recognized by the trade for the different grades, yarn construction judged to be most advantageous for the mill were figured.

Twice each year competitive materials purchased in the open market are compared against our own goods similarly purchased. Careful examinations by every overseer, and laboratory analyses, including abrasion tests, are made on all the goods. Thus changes in competitive lines are followed, and our own goods kept in line.

In connection with the information that is sought for informative labeling, the laboratory has a very definite part to play in protecting the mill against statements on the label that cannot be lived up. Apparently, to carry weight, the information on the labels must be supplied by sources outside of the industry. There is a very real element of danger here.

LABEL STATEMENTS are based on analysis, but wide variations can normally occur in the analysis of a textile. Take the specific case of a sheet, and assume a good uniformity of the warp and filling yarns. Gray sheets are woven on hundreds of different looms, and the cloth from these many looms is bleached in numberless lots; yet all the sheets with their myriad of minor variations must be covered by an identical label, and the label statements are based on the analysis of from one to a half-dozen sheets purchased from the same store and probably from the same bleaching lot. Accuracy of the analytical data obtained from the few sheets under analysis is not questioned. What is questioned is the justice of applying this limited data to cover the thousands of sheets that will be covered with this label.

If the outside laboratory sent in data for labeling purposes showing the particular sheets examined to be below standard, the mill would most certainly ask for check analyses on other goods. If they furnished labeling data based on extra good sheeting lots which we knew we could not live up to in the majority of cases, we should, in my opinion, be equally insistent that these figures be scaled down at least to our average yearly results.

Often, figures submitted for certain items are misleading, as they have been obtained by treating the material under test in a way in which it would never be treated in actual use. As an example take the matter of shrinkage in sheets.

Routine shrinkage tests usually call for drying on a flat-bed press. In a laundry, a sheet is dried on a rotary ironer and is fed into the ironer with the selvage leading, which tends to widen out the sheet and to pull it down in length. Thus, a sheet from the laundry has had three actual shrinkages: the natural shrinkage inherent in the twisted yarns when wet out, the contraction regained from the mechanical stretching in the bleaching operation, and the mechanical contraction induced by the ironer. A commercially laundered sheet will show a much greater shrinkage in length than will a sample from it dried on a flat-bed press, and it will show a gain in width. In addition, full shrinkage is not obtained until the sheet has had about five washings.

The above are in brief the general functions of a mill testing laboratory, and they are entirely apart from the functions of research in pure science. A mill laboratory is a work shop that deals with many variables. On the other hand, the writer does not look on a mill laboratory simply as a place where analytical work is performed on materials as an end in itself, but rather as a place where every possible assistance must be given to the entire mill organization in maintaining and, wherever possible, in bettering the products that are giving us our means of livelihood.

Fabrics For National Defense

Army calls for lining and shirting fabrics; changes some requirements

WARM COATS require linings that help to maintain an air space between the garment and the wearer and, if the coats are to be worn by soldiers, linings that will stand long wear and hard service. Such a fabric has been specified by the U. S. Army for the lining of service coats and sweatbands of field caps.

The fabric is a fine, combed-yarn twill with minimum weight requirement of 4.4 oz. per yd., based on 32-in. width. It is covered by U. S. Army Specification No. 6-100B. The cotton must be of suitable grade and staple, and must be thoroughly carded, well combed, and evenly spun. Either single or 2-ply yarns are acceptable; yarns must be practically free from slubs, specks, and knots.

Construction of the fabric shall be 78x126. The weave shall be 5-harness filling-face twill to the right, one up and four down. Breaking strength by the 1x1x3 grab method shall not be less than 62 lb. in the warp and 80 lb. in the filling. Widths may not vary below 32 nor above 33 in.

Color must be vat-dyed olive drab; the fabric shall be mercerized, the face singed and the cloth given a schreiner finish to produce a high luster. The finished cloth shall conform in shade, color, fastness, workmanship, and finish to the sealed standard sample.

Single cut lengths of 50 to 60 yd., or double cuts of 100 to 200 yd., folded in 1-yd. folds, are required; no piece of cloth less than 35 yd. in length is acceptable.

[The approximate gray construction required to produce an acceptable fabric, though not stated in the specification, is as follows: 35 in. off loom, 72x132 thread count, 24s warp, 35s filling, all yarns combed singles.]

2,500,000 YD. of 10½ oz., olive-drab flannel shirting have been called for by the QM in late bid invitations. The applicable specification is No. 8-54B. This is presented below in abstract form, together with suggested manufacturing data.

Stock—Fleece and/or pulled wool not under 60s grade; cotton of good grade and staple; so blended as to produce fabric containing not less than 80% wool.

Yarns—Spun on French worsted system. [Although not stated in the specification, use of 2/44s (worsted count) yarn for warp and filling—with the loom set-up described below—should yield a fabric of correct weight.]

Physical Requirements—Weave, two up and two down right-hand twill; width, not under 56 or over 58 in., exclusive of selvages; weight, 10½ oz. per linear yd., with tolerance of ±½ oz.; minimum ends and picks per inch, 68x68; minimum breaking strength (1x1x3 grab method), 55 lb. in each direction. [Although not stated in the specification, using the yarns listed above, 3,840 warp ends (plus selvage) reeded four ends per dent in a 14¼-dent reed 68 in. in width, and 64 picks per in. at the loom—with the finishing routine outlined below—should yield correct finished fabric.]

Color — Olive-drab, produced by blending shades of olive with white. Must satisfactorily pass tests for fastness to weather, laundering, and crocking. In shrinkage in laundering test, cloth shall not shrink over 5% warpwise, or 4% fillingwise.

Finish—Cloth shall be thoroughly cleaned, lightly fulled, closely sheared, well pressed, and have a firm handle. [Although not stated in the specification, it is recommended the cloth, which should measure about 63-64 in. in width and have 66 picks per in. at the gray perch, be run through a crabbing machine, to set the fabric. Following this would come a run in a washer, during which the cloth should be shrunk down to 56 in. in width. Extract, and dry at 57½ in.; shear and press; finish fabric at 57 in. wide.]

QM HAS ANNOUNCED an amendment to late bid invitations for cotton uniform twill with a water-repellent finish. New requirements are that fabrics be given a durable water-repellent finish to have minimum spray ratings of 90 initially, 80 after three launderings, and 80 after three dry cleanings. For testing spray resistance, instructions are to fit to a funnel a small spray nozzle with approximately 20 holes .035 in. in diameter. So clamp the test specimen to a suitable frame mounted at a 45° angle that the center of the specimen is 6 in. directly below the nozzle. Pour 250 cc. of water at 80°F. into the funnel. After the spray, tap one edge of the frame against a solid object, then rotate 180° and once more tap at point where previously held. Rate sample visually as follows:

100—No sticking, spotting or wetting of upper surface.
90—Slight random sticking or spotting of upper surface.
80—Wetting of upper surface at a majority of points where water sprays impinge.
70—Partial wetting of whole of upper surface subjected to spray pattern.

Slight revisions have also been made in laundering and dry cleaning tests.

Army orders for cotton uniform twill fabrics amounted to more than 60,000,000 sq. yd. during the six months from March to August of this year. Data on production of these fabrics and specification requirements were given in the January, 1941, issue of TEXTILE WORLD.

When the bugler plays "I can't get 'em up!" these cool fall mornings, warm flannel shirts such as that shown above are very much in order

Knitted Overcoating Fabrics

Differences in stitch result in marked differences in properties after fulling

By IRVING WOLF

THAT DIFFERENCES IN STITCH result in differences in the strength, thickness, appearance, hand, and other characteristics of knitted woolen overcoating fabrics after fulling was disclosed by a series of experiments carried out recently. Three types of fabrics were investigated—a plain stitch, a birdseye, and a twill. All three fabrics were made from the same yarn, knit on the same machine with the same length of stitch, and finished in the same fulling mill. After fulling, the fabrics were examined and the characteristics noted. The work was carried out at Lowell Textile Institute, and was reported in full in a thesis presented by David Pernick and the writer as a partial requirement for the degree of Bachelor of Textile Engineering. It is believed that knitters of outerwear fabrics will be interested in the following brief summary of the experiments and the results obtained.

The fabrics were knit from 2.3 run, frame-spun woolen yarn, with 8.2 t.p.i. Stock consisted of $^3/_8$ blood Territory wool. The fabrics were knit on a Crane spring-needle machine with 8-gage, 19-in. cylinder, 468 needles and 4 feeds. The cloth was scoured and dried and then was fulled in a Hunter sample rotary fulling mill, single draft, with no trap pressure except for the weight of the top board, and medium top-roll pressure; after fulling, the samples were washed, hydro-extracted, and dried.

Samples of the fabrics as they came from the knitting machine and after being fulled for 3 hr. and then washed are shown in the accompanying illustrations. Fig. 1 is the plain fabric; Fig. 2, the birdseye fabric; and Fig. 3, the twill.

Thickness measurements made with a Randall & Stickney thickness tester showed that the plain fabric was the thinnest of the three both before and after finishing, and the birdseye fabric was the thickest. All fabrics gained in thickness at a constant rate during fulling, the variation in rate of increase being only slightly different for the different fabrics. Average thickness of the fabrics in the grease and after fulling for 3 hr. were: plain fabric, 0.0576 and 0.0731 in.; birdseye, 0.0714 and 0.0825 in.; twill 0.0673 and 0.0761 in.

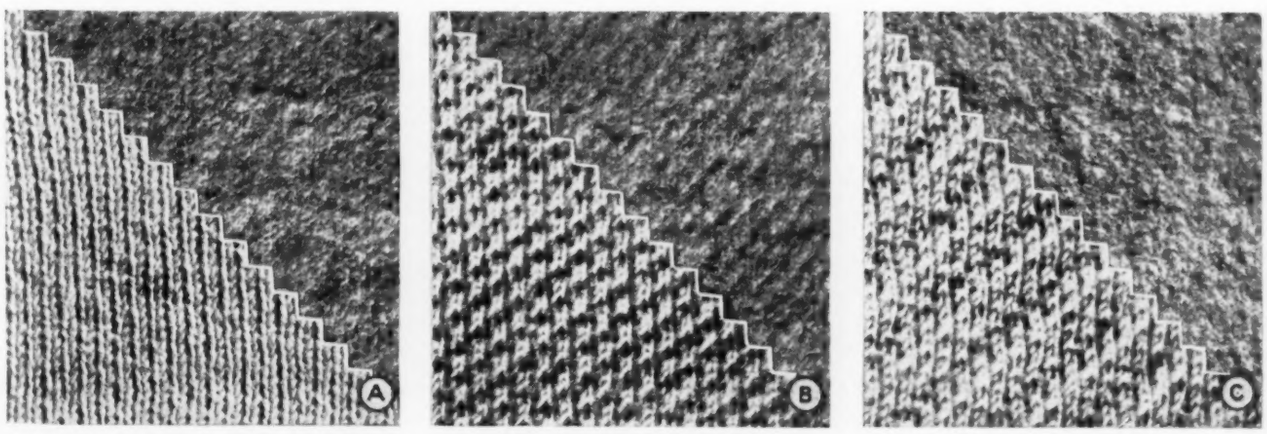
Bursting-strength tests made on a Mullen tester showed that the plain fabric was stronger than the twill fabric at all times. After fulling for 2 hr., the birdseye fabric was the weakest of the three, but during the third hour of fulling showed the greatest rate of increase in strength, and was the strongest of the three after fulling for 3 hr. Average bursting strength after 1 hr. and 3 hr. of fulling were: plain fabric, 66.6 and 75.6 lb.; birdseye, 64.7 and 79.3 lb.; twill, 64.3 and 74.6 lb.

Weighings of 2x2-in. samples showed that the plain fabrics was the lightest both in the grease and after finishing. The birdseye fabric was the heaviest in the grease, because it contained the largest number of tuck stitches; however,

(*Continued on page* 91)

PROPERTIES OF THREE TYPES OF KNITTED FABRICS AFTER FULLING FOR 3 HR.

	Plain Stitch	*Birdseye Stitch*	*Twill Stitch*
Courses per in.	19.10	19.30	18.80
Wales per in.	17.75	16.60	18.14
Stitches per sq. in.	339.00	320.00	341.00
Wt. in oz. per sq. yd.	14.40	16.10	16.62
Bursting strength lb.	75.60	79.33	74.56
Thickness in thousandths of inch	73.10	82.50	76.40
Appearance	Smoothest	Intermediate	Roughest
Handle	Softest	Harshest	Intermediate



Three types of knitted fabrics in the grease and after fulling: *A*, plain stitch; *B*, birdseye; *C*, twill

Reconditioning Printing Rolls

Tips on proper use of grinding wheels during roughing and finishing operations

By H. J. WILLS
Engineer, Carborundum Co.

COPPER PRINTING ROLLERS can be reconditioned by revolving them in a water trough and holding a "stone" against them, but it will pay most textile printing plants to install grinding machines. The usual equipment consists of a standard cylindrical grinding machine for rough grinding or removing old etching and a special machine for the finishing cuts. The latter machine has a vertical wheel spindle on a traveling head, and uses the side of the grinding wheel instead of the periphery. With such equipment, a much better job of reconditioning can be done at low cost.

Formerly as many as eight operations, including much laborious hand rubbing were required to dress a roller properly. Due to careful study of the requirements, and the development of manufactured abrasive wheels of special characteristics, it is now possible to secure far better surfaces with as few as three, or even two, operations. Furthermore, it is no longer necessary to touch up the roller with coated abrasive paper, which saves time and makes for a better surface. When coated paper is used, frequent stops must be made to change sheets or to remove those which have torn. Even fine grit paper leaves comparatively deep scratches on the surface of the roller.

Although the reconditioning of copper rollers is a simple grinding job, it calls for patience, great care, and knowledge of the best modern practice. The first step is to select abrasive wheels, often called "stones," which will remove the right amount of stock quickly and generate a surface free from scratches and other defects. The stones must be uniform in composition so that they will not contain either hard or soft spots, which are likely to gouge the surface and hence waste all of the time and expense previously spent on the roller.

In the roughing operation on the cylindrical grinder, the aim should be, not merely to remove stock rapidly, but to leave so good a surface that the subsequent finishing operation, which is the most expensive one, will take as little time as possible.

It is unwise to attempt to remove stock too rapidly, as that calls for coarse, harsh wheels which practically always leave deep scratches, and so increase the time required for finishing. To prevent this, wheels of fine grit and of special bond characteristics should be used. They must be carefully balanced, trued, and dressed before starting to grind. When enough stock has been removed, the rolls should be redressed to smoothness and carefully finished.

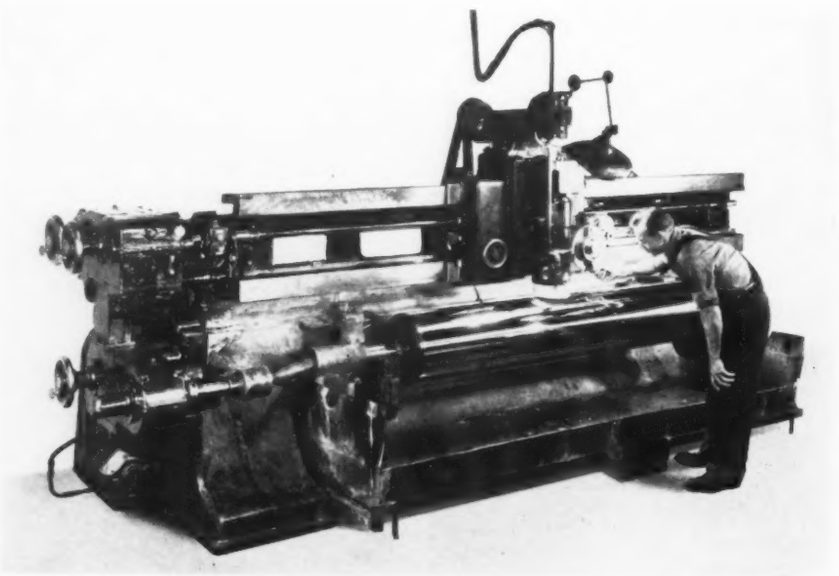
In the finishing operations on the special vertical-spindle machine, it is essential not only to select wheels of the right grade; that is, bond hardness, but to manipulate them correctly. It is possible by poor manipulation to make a wheel of the right grade act either too soft or too hard. A wheel that is actually too soft, or is made to act soft, will wear much faster than it should and the rollers are likely to be marked with "fishtails"—a serious defect. If the wheel is, or acts, too hard it will not cut properly.

A wheel that is too soft can be made to act harder by increasing its speed, by slowing the work speed, by decreasing the speed of traverse, or by lessening the pressure of the wheel against the work. If a wheel acts too hard, do just the opposite. Enlarging the hole in the wheel is also effective.

GOOD SURFACES cannot be produced with a grinding machine that is in poor condition. The heart of the grinding machine is the wheel spindle, since on its condition largely depends the presence or absence of such faults as chatter, and work out of round, burned, or scored. To keep the spindle from wabbling or vibrating, care should be taken to see that it runs in a properly lapped cap or sleeve bearing of bronze or babbitt with the right oil and heat clearance.

Vibration in the grinding machine may be caused by whipping belts or driving chains, uneven belts, poor belt splices, faulty work-head thrust bearings, and work driving gears. Worn guideways, loose headstocks and tailstocks, poor machine foundations, and building vibration, are all common causes of faulty grinding.

Without insistence on complete cleanliness of the grinding machine, the air in the workroom, the coolant, the grinding wheel and the work, good grinding is impossible. Copper, being soft, is easily scratched by dirt that is hardly



Standard Process Corp. vertical-spindle grinding machine of type similar to that used for reconditioning print rolls

noticeable. There should be nothing above or near the grinding machine which can drip or splash oil or grease onto the wheel or the roller, since those substances affect the cutting qualities of the wheel.

Although oil and soda solutions are satisfactory coolants for use in grinding most metals, they are not suitable for copper. Clean water is the best coolant for copper rollers. If the roll is run in a trough of water it is best to change the water frequently—particularly when changing to finer grit stones. A loose particle of abrasive that has been torn from a coarse stone will cause scratches when it is carried over to a finer grit stone.

Since sand is frequently present in the best water systems, it is wise to filter the water through several thicknesses of fine cambric, at least for the finishing operations. A strong, copious supply of water should be kept flowing on the roller directly in front of the stone at all times during the grinding.

Operations on the special vertical-spindle grinders using the side of the wheel are generally called roughing, smoothing, and polishing. All three are used for base and solid rollers. Shell rollers require only the last two operations.

All these operations call for very fine stone feeds, which diminish as the work progresses. Roughing cuts should be made with positive feeds in order to acquire or maintain roundness and parallelism. Semi-finishing or smoothing cuts may be made with a floating or gravity feed. The final cut is made only with gravity feed.

The newer vertical-spindle machines are equipped to permit the wheel to have a concentric movement or to give it an oscillating or eccentric movement.

Roughing and semi-finishing operations are done best with the concentric movement, making sure that the stone spindle is centered with the axis of the roller. Otherwise scratches may be caused by the edges of the stone hole, especially if the edges have not been rounded off.

The finishing operation is done with the eccentric or oscillating movement, which effectively crosses all lines and tends to reduce chatter. However, it is advisable on the semi-finishing and finishing cuts to make one final pass with a concentric movement and a light feed.

The stones may be revolved at any speed under that at which they vibrate or chatter, bearing in mind that at higher speeds the stones act harder and finer. The stone speed determines to a great extent the appearance of the surface. At 100 r.p.m. the surface will be frosty looking with short curved marks; at about 1,500 r.p.m. the surface will consist of long straight lines which make it decidedly shiny. This shine causes even the faintest, shallow lines to stand out in sharp relief, thus making them appear deeper than they are, and giving the impression that the surface is poor, when actually it is very good.

Regardless of the stone speed, and whether or not the spindle is adjusted to concentric or eccentric movement, the advancing half of the stone's face will do most of the cutting. It is important that the cutting side of the stone always rotate against the direction of rotation of the roller.

During all stages of grinding, the rollers should turn as rapidly as they can without vibrating, since higher work speeds tend to minimize the grinding marks and flat spots. If the work speed is too slow while grinding with the oscillating movement, the stone will not touch the entire periphery of the roller, which will result in leaving high and low spots on the roller.

Traverse speeds are relatively unimportant, except that a wheel will last somewhat longer at slow traverse speeds. To traverse the wheel ¼ in. for each revolution of the roller has been found satisfactory. It is important that the stone be not allowed to pass beyond the end of the roller more than three-quarters of its face width.

SURFACE QUALITY. Copper rollers which are ground with manufactured stones look somewhat different from those finished with natural stones or coated abrasives. The surface appears flatter and has a less granular finish to the eye; this type of surface tends to accentuate any marks or lines. Close examination, even with a microscope, and actual use in printing shows definitely that the surface is remarkably free from scratches.

It is essential that the stones be given the greatest of care. They must be kept free from oil, grease, and dirt. When the workmen is mounting the stones his hands must not be oily or greasy. Store the stones in a clean, dry place. Never lay them face down on a dirty floor or shelf. It is advisable to round off the edges of the wheel's periphery and center-hole before performing any grinding operation. It is absolutely essential that this be done on the finishing stones.

Knitted Overcoating Fabrics

(*Continued from page* 89)

the twill fabric shrank more during fulling and was the heaviest after finishing. Average weights of 2x2-in. samples in the grease and after fulling for 3 hr. were: plain fabric, 13.12 and 19.40 grains; birdseye, 15.60 and 21.74 grains; twill, 16.40 and 22.48 grains.

Number of courses and wales per inch were determined with the aid of a pick glass and scriber. Average courses per inch in the grease and after fulling for 3 hr. were: plain fabric, 17.0 and 19.1; birdseye, 17.8 and 19.3; twill, 18.6 and 18.8. Average wales per inch were: plain fabric, 11.60 and 17.75; birdseye, 9.8 and 16.6; twill, 10.60 and 18.14.

Samples measured for length and width in the grease and after fulling showed that greatest percentage of skrinkage occurred in the twill, and smallest percentage of shrinkage in the plain fabrics.

Widths of samples in the grease and after fulling for 3 hr. were: plain fabric, 40.7 and 25.5 in.; birdseye, 50 and 29 in.; twill, 45 and 26 in. Lengths in the grease and after fulling for 3 hr. were: plain fabric, 36 and 32.5 in.; birdseye, 36 and 33.25 in.; and twill, 36 and 32.25 in.

The per cent shrinkage in length was almost the same as the per cent shrinkage in width for each fabric. During the 3-hr. fulling the plain fabric and the twill each shrank at a constant rate, the rate being much greater for the twill. The birdseye, however, shrank at a very slow rate during the first hour of fulling and at a much higher rate during the last 2 hr.

Visual examination for appearance after finishing showed that the plain fabric had the smoothest surface and the twill had the roughest surface. In hand or feel, the plain fabric was the softest and most pliable after finishing, and the birdseye was the harshest and most boardy of the three knitted overcoatings.

The differences in certain of the physical properties of the three fabrics after fulling for 3 hr. are summarized in the accompanying table. As all three fabrics were made from the same yarn, on the same knitting machine, and were finished in same way, it is apparent that differences in stitch result in fabrics which, after fulling, differ considerably in weight, strength, thickness, appearance, handle, and other properties.

Analysis of Covered-Rubber Yarn

Methods for determining constructions and pre-calculating production costs

By WARREN A. JOHNS

Increased use of covered-rubber yarns has brought with it the need for standard methods for testing these yarns and fabrics made from them. As yet, however, complete standards for elastic yarns and fabrics are lacking. The following method for the analysis of covered-rubber yarn is offered in the belief that it may serve as the basis for a standard to be adopted by the industry. We shall be glad to publish in TEXTILE WORLD any comments received from readers on improvements or refinement of the method suggested.

★ ★ ★

AN ANALYSIS of covered-rubber yarn yields information which is necessary if a given yarn is to be duplicated and its costs predetermined. Since the analysis is the guide to the synthesis, it must be as accurate as possible. Owing to the nature of the materials from which covered-rubber yarn is made, some variations are bound to occur when one attempts to reproduce a given yarn. However, if standards are established for each component part, careful analyses will reveal where the deviations occur and will permit intelligent work on any of the parts which vary from standard.

Rubber threads employed in manufacture of covered-rubber yarn range in size from 24 gage to 120 gage (1/24 to 1/120th in.). The coverings are even more varied and include cotton yarns, either singles or ply, from 10s to 140s in various combinations. Silk, rayon, and spun silk are also used to some extent.

Usually the trade divides the constructions into two classes; namely, fine and heavy; the fine constructions include all rubber threads above 50 gage; the heavy, 50 gage and below. Most of the fine rubber threads are covered with one or two ends of 50s singles cotton and then are covered (with the wrapping in the opposite direction) with one or two ends of 50s singles or with two ends of 100s singles. The rubber itself is either 84, 100, or 112 gage.

The heavier rubbers include 50s, 44s, 40s and 38s. These are covered in various ways and with many different combinations to give the required stretch and the weight desired. The average yarn count ranges from singles 40s for the 50-gage rubber to singles 20s for the 38-gage rubber. Practically all the coarser rubbers are covered with some combination of singles 10s to 20s or their equivalents.

A further classification is made according to whether one covering is used or two coverings. In the former class, the bare rubber is covered with three or four ends at the one time; this is known as a smooth covered rubber. Another type is made by the same procedure, but is followed by a single end as an outer wrapping; this is known as an outside spiral covered rubber. Another type is made with the single end on the inside and the three or four ends on the outside; this is known as an inside spiral covered rubber.

The method of analysis is governed somewhat by the type of yarn. That is, for a heavy yarn a sample having a length of 54 in. is used; for a fine yarn, 144 in. Assuming an analysis is to be made of a yarn of unknown composition, the first step is to obtain an accurate measurement of length. This is done by laying a single end of the covered rubber on a yardstick and cutting at the 35 in. mark. Three similar pieces are cut, making a total of 4 yds. minus 4 in. The reason for this short length is that there is a slight crimp or waviness in the covered-rubber yarn as it lies on the yardstick and, if tension is applied to straighten this yarn, the cut lengths will vary considerably.

STRETCH is tested by marking off 3-in. lengths of the yarn and pulling the yarn until the elastic limit is reached. The pull should be just enough to allow the 3-in. section to return to its original length. A better method is to attach some small clamps to the suspended thread and measure the resulting stretch. Five or six tests will give a fair average. When making the stretch test, do not let the covered yarn untwist. Untwisting results in the contraction and, if the contracted length is used for the stretch test, the result will be increased by as much as 40% in some

(*Continued on page* 94)

ANALYSIS OF A TYPICAL COVERED-RUBBER YARN

	No. of Ends	*Material*	*Wt. of 144 in.*	*% of total wt.*	*Length in 10 in.*	*Factor*	*Cover spiral*	*Yarn twist*
Rubber	1	106-gage (Cut)	1.974	30.95%	4.50 in.	....	..	..
Inside	1	1/50s	2.200	34.51%	24.15 in.	5.52	Z	Z
Outside	2	1/100s	2.200	34.51%	24.65 in.	5.41	S	Z
		Total	6.374 Points*					

Gage of covered-rubber = 60 threads per inch or 0.016 in.
Yards per pound = 6,283
1 yd. bare rubber weighs 1 point (Standard = 1)
Stretch 3 in. to 6 in. using 580-grain weight.
* 1 Point is equal to 1/10,000 lb.

For Better Slashing and Weaving

Georgia Textile Operating Executives discuss mill problems at Atlanta meeting

SLASHING AND WEAVING problems were discussed at the fall meeting of Textile Operating Executives of Georgia, which was held recently at Georgia School of Technology, Atlanta. George E. Glenn, Jr., superintendent of Lindale (Ga.) Division of Pepperell Mfg. Co., and general chairman of the group, presided; C. A. Townes, agent of Aragon (Ga.) Mills led the slashing discussion; Henry B. Robinson, superintendent of Columbus (Ga.) Mfg. Co., was leader of the weaving forum.

Before the technical discussion got under way, G. H. Dunlap, who has obtained a year's leave of absence from the textile school of Clemson College in order to conduct the research program being financed by the Textile Foundation and sponsored by the Arkwrights and the Southern Textile Association, explained that he will strive for definite, practical, and conclusive results which can be used to benefit the entire cotton textile industry.

A discussion of the changes in operating procedure necessary when changing from two-cylinder to high-speed three-cylinder slashers brought forth many answers and some quite contradictory opinions. However, the majority acepted the following points:

No change in fluidity or concentration of starch, or in percentage of fats is necessary; but one mill man reported that for the three-cylinder slasher he had thinned the starch and slightly increased the percentage of fats. Weights of squeeze rolls should be from 550 to 750 lb., according to the percentage of size demanded by local conditions, with the possibility of using a roll as light as 450 lb. in some cases. It was reported that one mill had increased roll weights by 200 lb.

Use of a ratchet arrangement on slasher cylinders received little indorsement; only two mills were reported as using it, one having ratchets on all three cylinders and the other using it on the third cylinder only. Those mills not using the device brought out the fact that their cylinder drive gears do not wear on the off side, indicating that the cylinders are not being pulled upon by the yarn.

One mill which had attempted to use the ratchet on sets containing few ends found that the cylinders rebounded, breaking many ends and causing trouble in both slasher and weave rooms. For this reason, the ratchet was removed.

The normal stretch on three-cylinder slashers was said to be about 1¾% when all three cylinders are gear driven; an increase of ¼% in stretch results from use of a ratchet on the third cylinder; and a normal stretch of 3% is to be expected when all three cylinders are equipped with the device. Production of 30 to 67% over that of two-cylinder slashers is obtained by three-cylinder machines, according to several of the men present.

A member asked if any mill represented at the meeting had used a double head on a three-cylinder slasher. The reply was that one mill was employing double heads on all its three-cylinder machines and that results obtained were satisfactory.

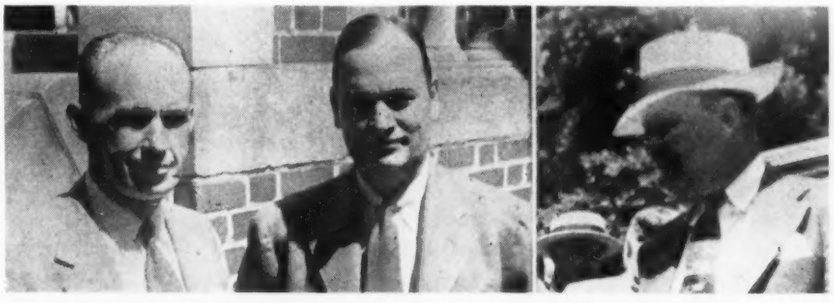
AUTOMATIC MOISTURE CONTROL equipment designed to insure fixed moisture content in yarn leaving the slasher was reported upon favorably by two mills using such equipment. It was stated that the device eliminated errors in the operator's judgment on a slasher, resulted in production of more uniform and better running warps, and increased production; one mill reported that it has effected a production increase of 35% and that moisture in warps is held to plus or minus ½% variation.

One man described a positive-drive slasher creel in use in his mill, in which the section beams ride on the surfaces of drums which are geared to the slasher drive; the device was reported as giving perfect run-outs if the warper yardage is properly controlled. Another creel arrangement described is one in which braking of section beams is accomplished by ropes around beam heads which are controlled from the shipper lever; the ropes run slack when the slasher is in operation, but are tightened when the shipper lever is pushed to the "off" position.

Excessive waste in slasher run-outs can, in most cases, be attributed to uneven lengths on section beams, it was decided. The question of which beam normally runs out first brought contradictory answers; some members stated that the back beam runs out first, while others contended that the back beam runs out last. It was generally agreed that a 15- to 20-yd. run-out can be considered as normal.

In reference to running wet sets on the slasher, the advice of one mill man was to put the wet beams on the slasher as quickly as possible. He further stated that in combination wet and dry sets he uses two size boxes, running wet beams to one box and dry beams to the other, but that the size formulas and temperatures of the two boxes are the same.

A member asked for a poll of those present to find out how many struck



C. A. Townes, left, agent of Aragon (Ga.) Mills, who lead the slashing discussion; and G. E. Glenn, Jr., center, superintendent of Pepperell Mfg. Co., Lindale, Ga., who retired as general chairman of the association. Erwin R. Lehmann, right, superintendent of Langdale Mill of West Point Mfg. Co., who was elected general chairman

leases and how many picked leases at the front of the slasher. A show of hands revealed that the great majority struck leases. One speaker explained that if a fine comb is used and the operator is careful to obtain a fairly uniform distribution of ends, there is no need to take the extra time required to pick a lease. Where there is a bunching of ends in a few places, the operator can lift these places and spread the ends. Only on very light sets is it necessary to pick leases.

WEAVING DISCUSSION. As a means of reducing the number of quills knocked out on the floor on the change when running coarse work, the procedure generally agreed upon is to set quill cans as high as possible and to place a cloth curtain in the front wall of the can; the curtain absorbs the shock of the falling quill and reduces its tendency to rebound. Another favorably received suggestion was that thread cutters cut filling in the shuttle so that there will not be a long tail to hang and jerk the quill as it falls.

Reports of per cent relative humidity used in the weave room averaged about 80 to 85%, with one member stating that he attempted to maintain a humidity of 90 to 95%.

Regarding advantages of running staggered harness cams, one mill reported that greatest benefit from staggered cams is obtained when the sley is 100 or above, and that the chief advantage in such a case is that all ends do not pass each other at exactly the same time; difficulties in putting cover on fabrics woven with staggered cams should discourage such practice except where high sleys make it necessary. An 11° stagger is sufficient, according to one man who stated that he formerly had used a 33 1/3° stagger, but is now using an 11° stagger.

The problem of filling breaking on the left side of the loom, and the loom continuing to run and causing a mispick when the filling catches up was discussed at some length. Reasons cited for failure of the loom to stop are filling fork hitting the grate, or shuttle coming into the box too high. Among the chief causes of filling breakage are the following: rough shuttle; temples too close to reed; too little power on shuttle, causing fork to cut filling; too much power on shuttle, causing excessive balloon to break filling; filling pinched in shuttle; and use of a binder whose shape is incorrect.

Discussion of methods of training weavers and loomfixers brought out a description of a system that appears to have considerable merit. All beginners in the weave room are started at such jobs as hauling filling, picking up quills, etc., in which jobs they are urged to take note of loom functions, weavers activities, and other practices. Those who show promise are shifted to chain building and later are taught to weave. When proficient in weaving, they are given jobs as weavers. Then, if they appear to be apt, they are sent to vocational classes to learn loomfixing under an expert teacher. Following this, warping and smashing jobs provide opportunity to observe and help fixers. A period of overhauling looms precedes assignment to a regular section. It was stated that eight to twelve months of study and practice on loomfixing alone is necessary for the training of a competent loomfixer; where weaving must be taught also, three years is not considered to be too long a time.

Descriptions of safety methods struck a rather uniform note. All who reported stated that a safety committee met monthly to inspect the plant and to discuss means of eliminating hazards found. Stress was laid on methods of making employees safety conscious through individual instruction and through departmental competitions.

New officers elected were: Erwin R. Lehmann, superintendent of Langdale (Ala.) Mill of West Point Mfg. Co., general chairman; J. Hal Daughdrill, vice-general chairman; and J. O. Cobb, member of the executive committee.

Analysis of Covered-Rubber Yarn

(*Continued from page* 92)

cases. Smooth covered rubbers untwist; therefore they contract much more than either outer or inner spiral covered rubbers. If the covered rubber is wound on a spool, it should not be pulled over the spool head, but pulled in a parallel line to the winding, the spool turning around and delivering the length desired.

Next weigh the entire sample as a check against the detailed weights to be determined later. Cut the sample into eight lengths for the sake of convenience in unwrapping the covering. Remove the outside covering, taking care not to break the yarn because this must be measured accurately to obtain the yarn count. Yarns as fine as 100s need careful handling. A small twist tester can be used to advantage for this work. Measure and record the length of the outside covering. Remove the inside covering and measure and record its length. Measure and record the length of bare rubber. Proceed in like manner until the component parts of all eight pieces have been measured and recorded.

Weigh the outside cover and record it. Repeat for the inside cover and then the bare rubber. The total weight should equal the weight before separation. Gage the bare rubber, using either a rubber-thread gage or a micrometer gage.

Results of an analysis of a typical yarn are given in the accompanying table.

RECORDING OF ALL LENGTHS on a 10 in. basis permits any further computations to be made easily. The factor is obtained by dividing the length of the covering in 10 in. of covered thread by the length of bare rubber, and is useful for comparative purposes. For instance, one may find two covered yarns of the same construction having factors that are quite different from each other because the relative lengths are different.

Since it has now become the general practice to indicate twist direction by using the terms "S" and "Z," it is convenient to apply the same terms to the direction that the spirals take in covering the rubber. Therefore, under the heading "Cover Spiral" this direction is indicated; that is, the inner covering forms a spiral running from left to right or what is known as a Z twist, and the outer covering has its spiral running from right to left or what is known as an S twist.

The direction of the yarn twist is also given. The yarn twist is important because some covered rubbers are made with a yarn of S-twist. In either case the wrappings may be in the same direction as the yarn twist or they may be opposite to the yarn twist. Just what combination is used depends upon whether the covered rubber is an outside spiral covered rubber or an inside spiral covered rubber, and also the purpose for which the yarn is to be used.

It is not necessary to make note of the number of wraps per inch, as this item is practically covered when the length of the yarns in 10 in. of the covered yarn is recorded. It might be advantageous, however, to add the minimum and maximum stretch; also the per cent of stretch in putting on the inner and the outer coverings. In cases where the covered rubber yields variable stretches, this would be helpful in tracing the cause.

FIXING HOSIERY MACHINES

CIRCULAR MACHINES (Chapter XII Continued) Fashioning Effects

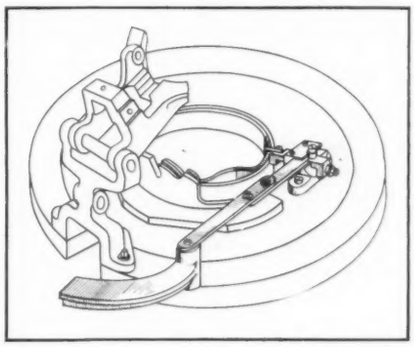
By JULIAN W. HUGHES

MOCK SEAM ATTACHMENT. Scott & Williams, Inc., has devised an attachment automatically to insert mock seams in hose during regular knitting. This is accomplished by two extra low-butt needles placed in the center of the regular low-butt needles. One of these extra needles has a slightly lower butt than the other. After the knitting of the welt is completed, a special cam is moved in far enough to bring down all low-butt needles except the lowest butt needle; the needle with the slightly longer butt of the two needles is brought down on alternate revolutions of the cylinder. By bringing down all the regular low-butt needles, only the two needles referred to above are in position to receive the yarn from the special feed. This yarn-feeding finger is shown in Fig. C23. The connecting mechanism for controlling the cam is shown in Fig. C24. If sufficient tension is put on this extra yarn, the alternate knitting of these two needles produces a very good imitation of the regular seamer stitch; however, with insufficient tension on the yarn the mock seam looks more like a wrap stitch for patterning half-hose and is, therefore, a poor imitation of a seam.

Since the advent of fine-gage machines, and the knitting of all-silk hose on circular machines, many manufacturers prefer to make this seam on a separate machine. This makes it possible to dispose of the mock-seam attachment, and to use a special marking sinker which produces an enlarged sinker wale giving somewhat the appearance of a drop-stitch from top to toe as a guide for the seamer. The machine for producing this seam is akin to the kind used for seaming full-fashioned, and its stitch type is known as OSf-1, U. S. Government specifications.

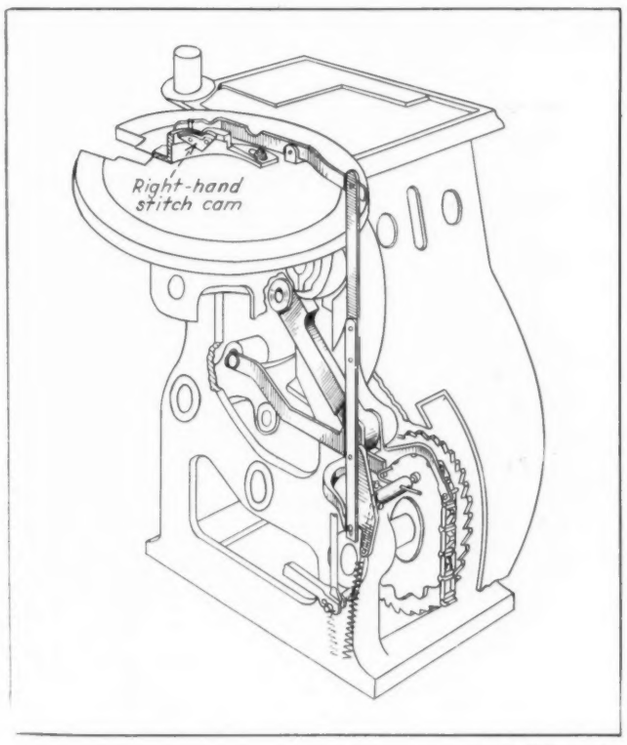
A seam is not desirable in the heel and toe because the weight of the wearer, supported on the heel and toe, makes a seam in these portions rather uncomfortable. Therefore, it is better if the drop-stitch is in evidence during the knitting of the leg and foot, and not during the reciprocal knitting of the heel and toe.

FASHION MARKS. On full-fashioned machines the fabric is narrowed at the calf and ankle portions by the transferring of stitches from the needles from both ends of the bars towards the center.



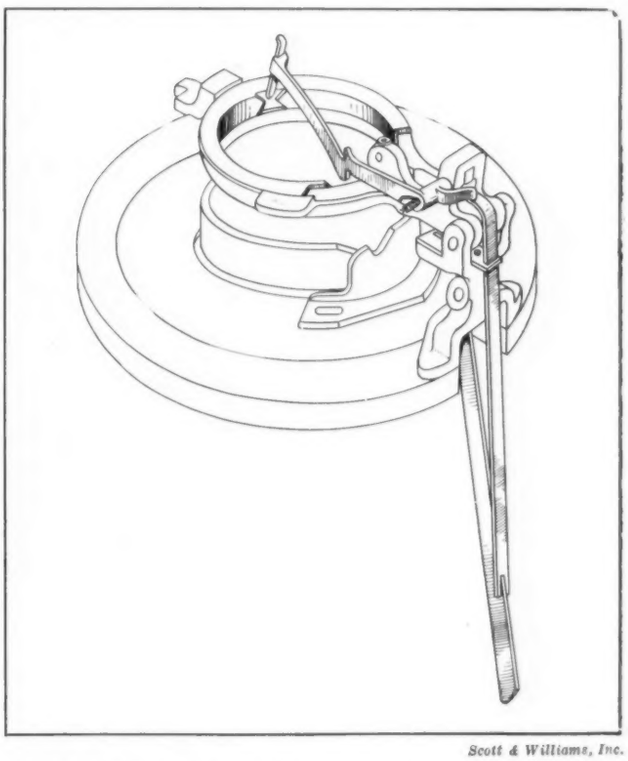
Scott & Williams, Inc.

Fig. C24. Connecting mechanism for controlling cam on fashion-seam attachment



Scott & Williams, Inc.

Fig. C23. Fashion-seam attachment on Model K machine showing yarn-feeding finger



Scott & Williams, Inc.

Fig. C25. Chain links and connecting mechanism for controlling right-hand stitch cam

This leaves a row of open loops, known as transfer or fashion marks, along the edge of the stocking blank. Of course, this is not necessary when knitting circular hosiery as the stitches are simply shortened and not transferred; but to give the stocking a full-fashioned appearance, most circular machines making women's hose are equipped with a device for producing a series of tuck stitches at each side of the mock seam; these are made just below the welt, in the calf portion, and sometimes in the instep of the foot.

Tuck stitches are produced by two needles with extra long latches, one on each side of the seam. The long latches of the two needles make it possible for them to hold their stitches for one revolution of the cylinder while the other needles cast theirs off. This is accomplished through the aid of the right-hand stitch cam, which is lowered for one revolution by swinging on a pivot located in the right-hand corner of the cam. The special chain links and connecting mechanism for controlling the right-hand stitch cam during this operation are shown in Fig. C25. On the next revolution of the cylinder the right-hand stitch cam is raised again to its normal position, and the long-latch needles cast off the stitches regularly for seven revolutions. This cycle is repeated until the desired number of fashion marks are produced.

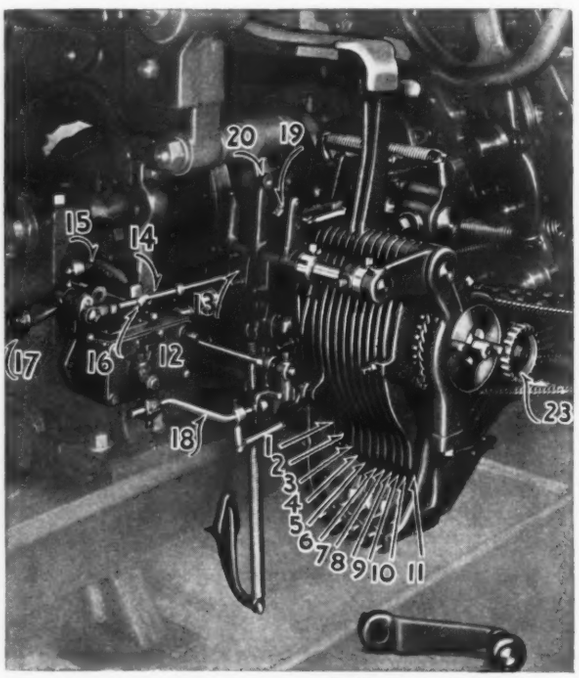
It is seldom that fashion marks appear in all three places on a circular-knit stocking. They appear either in the after-welt and the calf portion, or the calf and foot portion. In the writer's opinion, if there are only two sets of fashion marks, they are more effective in the after-welt and calf portions of the stocking, since they are more noticeable there.

When reasonable adjustments are made for normal wear, and average quality of knitting yarn is used, the fashion-marks attachment on the Model K gives little trouble. The surest way to keep the attachment in good working order is to check the right-hand stitch cam and the connecting mechanism to be sure everything is working freely and all the pivots are snug. Also, the special chain controlling the attachment must be checked to be sure that the lugs are not worn enough to affect the correct movement of the long-latch fashion needles. And the fashion needles should always be of the best quality, particularly the latches, because if they are not carefully fitted to the needles they may bend or not work freely enough which would mean defective knitting.

FULL-FASHIONED MACHINES (Chapter X continued) The Chain Motion

By WALTER A. SIMOND

THE SHIFTING ROLLER should be kept in its adjustment so as to face with the outside diameter of the left-side shifting cam. Be sure to keep the chain motion well oiled, and to maintain the proper clearance between the shifting roller and the cams. Whenever the chain motion lock lever releases too late or the shifting roller moves too slowly, the roller becomes trapped between the working inclines of both camshaft shift cams. If this happens, the cams will be forced apart and often broken, unless other main parts of the chain motion are smashed. The throw of the chain-motion feed pawl should be checked periodically and advanced to compensate for its constant wear. It is best to set the feed pawl so the narrowing buttons are close to the chain-motion lock lever on the feed before a narrowing; but be careful not to start the movement of any of the operating levers 1 to 11 (Fig. F25) until their buttons move into operating positions. In this manner the chain buttons will have a maximum amount of clearance in moving away from the levers, and thus the chain motion will operate correctly over a considerable period of time without readjustment. Be sure to have sufficient friction on the chain sprocket to prevent an overthrow when the machine is in high speed; but an excess of friction will cause the feed pawl to wear more rapidly. Many machines are provided with a retaining pawl for the chain sprocket. When this pawl is set so it will just fall in safely, its failure to do so is an indication that the feed pawl needs to be advanced.



Textile Machine Works

Fig. F25. View of part of chain motion

The slow-down switch, 12, (Fig. F25) has a trip lever, 13, which wears where it contacts the narrowing buttons. In readjusting be sure that the switch is tripped one course ahead of the narrowing operation, and reset collar 16 so as to hold the slow-speed position until the narrowed or lace stitches are completely transferred.

The narrowing buttons are made to clamp to the trailing link of the chain and be free on the leading link. They are usually plainly marked, but it is important that they be affixed to the chain as designed. If the button clamps are reversed, they soon work loose and usually cause a machine smash. Good gages for setting the buttons are provided for wide chains, and such gages can be made for narrow chains by filing notches in the edge of a narrow plate which is just long enough to fit into the back of the chain to hold each button in its correct lateral position while it is being clamped. Use the gage when checking to be sure the chain buttons are properly clamped and positioned.

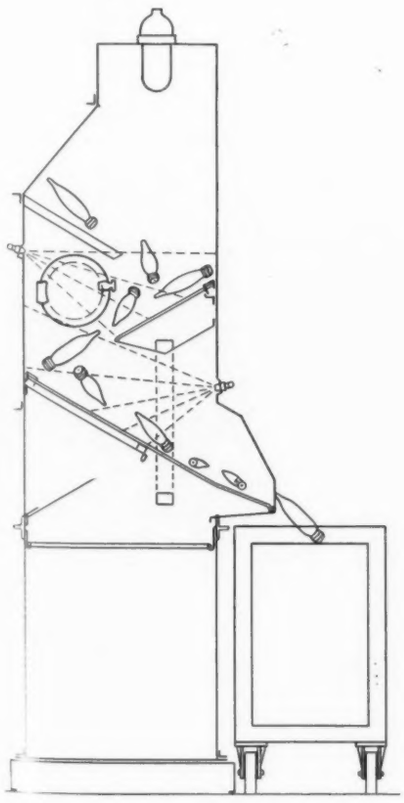
The course counter (23 in Fig. F25), which repeats 20 or multiples of 20 courses on the legger and up to 210 additional courses on the footer, must never be in motion while any chain-operated lever is active, as it would cause a repetition of some motion to spoil the fabric and, with some motions, to smash the machine. The rule is: Do not put a counter button opposite another button in a space between links.

TEXTILE EQUIPMENT NEWS

Yarn Conditioner

For conditioning yarns, Seydel-Woolley & Co., Atlanta, Ga., has announced the Niagara twist-setter, which operates without any moving parts other than the pump which controls the solution. As shown in the accompanying diagram, bobbins of yarn enter the conditioning chamber near the top. They then travel by gravity over a series of three inclined baffles, and emerge near the bottom of the machine where they are deposited in a truck, box, or other suitable container.

Inside the machine are a series of four nozzles, two on each side, which spray the bobbins with the conditioning liquid. It is stated that the inclined baffles give the bobbins a rolling, turning motion which results in their being sprayed uniformly on all sides. The amount of conditioning liquid put on is controlled by regulating the pressure of the solution and by varying the capacity of the spray nozzles. A reservoir tank below the baffles holds the solution and collects for re-use surplus liquid not absorbed by the yarn. A removable screen above the tank filters out dirt, trash, etc., washed from bobbins.

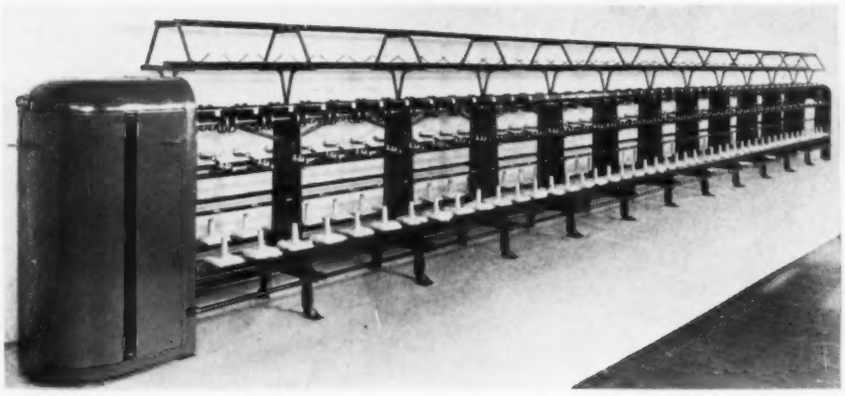


Yarn conditioning machine (Seydel-Woolley)

Various types of feeding arrangements are available to suit the requirements of particular mills. Typical are belt and slat conveyor feed, hopper and chute for hoist feed, and a ramp and platform for hand feeding. Also, the machine can be obtained without any feed conveyor, when desired.

It is pointed out that installation of the equipment is exceedingly simple, no foundation being necessary. All that is required is to connect the motor which operates the ½ h.p. pump motor, and run a cold water line. Floor space required is 3x3½ ft.

Conditioning, with the new machine, is said to cost only 10 to 20c. per 1,000 lb. of yarn.



Redrawing machine (Atwood)

Redrawing Machine

Atwood Machine Co., Stonington, Conn., has announced a new redrawing machine featuring improvements in design and construction. The machine, designated Model 200, is shown in the accompanying illustration. It is equipped with a variable-speed drive and traverse mechanism, totally inclosed but readily accessible for adjustment and maintenance. The drive is designed to provide instant and precise adjustment to any desired speed simply by turning a handwheel. A quick-reading yarn-speed-per-minute chart is mounted on the drive to save the time and bother of making frequent calculations.

The traverse mechanism has an extra large and heavy cam in a bath of oil. It is said to operate smoothly, steadily, and with practically no backlash. Traverse length, it is stated, can be set with extreme precision merely by turning slightly a small adjustment button, and a wide range of traverse is obtainable without changing the cam. Traverse bars are constructed of a special box shaped steel designed to prevent accumulation of dirt.

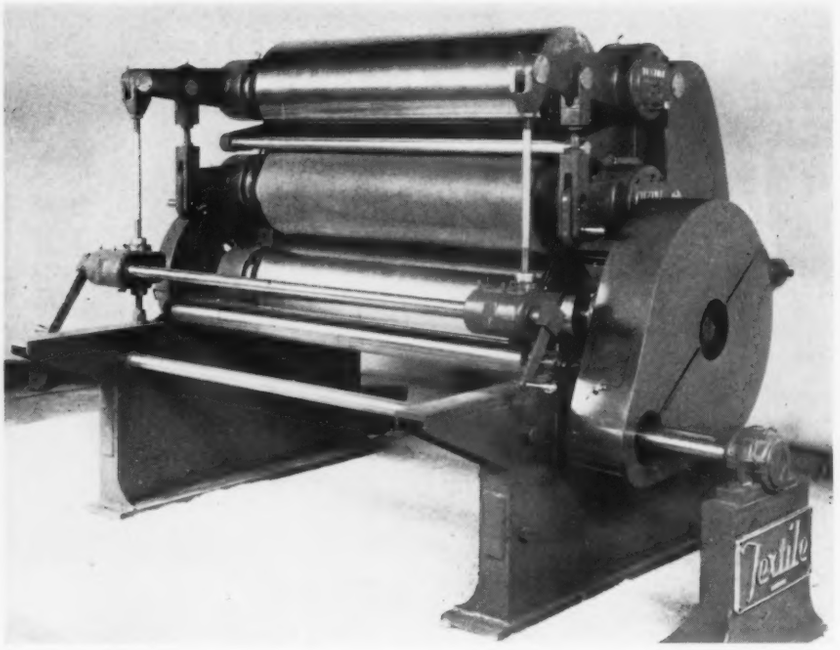
The new redraw machine can be obtained with accurately machined bobbin hangers of improved Atwood design, or with conventional bobbin fingers. The bobbin hangers are claimed to be particularly advantageous when operating at the increased drawing speeds now prevalent. The bobbin can be removed from its driving contact before doffing, providing protection to both operator and yarn when doffing large packages that have been rotating at high speed.

Flexibility and ready adaptability to the handling of any type of yarn at maximum efficiency are cited as features of the machine, and it is stated that production can be changed in a few seconds over a range of from 150 to 600 yd. per min.

Heavy-Duty Calender

Recently developed by Textile-Finishing Machinery Co., Providence, R. I., is a heavy-duty, three-roll, hydraulic friction calender designed for cloth speeds varying from 22 to 44 yd. per min. The machine has a heavy cast-iron frame which supports a top chilled-iron driving roll, a middle cotton roll, and a bottom dry sand cast iron roll. The top roll is bored and fitted for steam heating.

Pressure is available up to 50 tons



Heavy-duty, three-roll, hydraulic friction calender (Textile-Finishing)

per side, or a total of 100 tons. Pressure attachments consisting of the necessary hydraulic pump and accumulator furnish pressure to the cylinders and rams built into the bases of the side frames. According to the manufacturers, the pump is of a newly-developed gearmotor-driven type, and the accumulator is so constructed that weight may be increased or decreased without removing sections of the weight from the accumulator proper.

The friction gear arrangement consists of steel-alloy cut friction spur gears with quadrant and stud specially designed for a high percentage of friction, such as would be necessary in the finishing of fabrics such as insulation materials, tag stock, etc. The main drive is arranged for direct connection to an individual motor.

Features cited include special gear guards, a new type of friction batch let-off arrangement, a delivery-end batcher of rugged design and construction, and a novel spreading attachment.

Roller-Bearing Doffing Comb

For woolen, worsted, and cotton cards, as well as for garnett machines, Davis & Furber Machine Co., North Andover, Mass., have recently announced a new high-speed, roller-bearing doffing comb. It is pointed out that, in addition to its use on new machines, the comb can also be installed on machines already in service. Features cited for the new doffing comb are its cleanliness, freedom from oil leakage and oil throwing; freedom from binding, wear, heating, and from repairs and need of adjustment.

It is stated that speed can be as high as desired to clear the doffer, without noticeable wear or vibration, and without heating. Blades can be angular or flat, with teeth of varying fineness, cut straight, left-hand or right-hand, as desired.

All moving parts run in a bath of oil, and an oil level indicator is included as part of the equipment, to safeguard against putting in an excessive amount of oil. An oil overflow gives double protection against putting in more oil than is needed. Attention required is said to be limited to seeing that the right amount of oil is in the comb head, and it is stated there are no adjustments to make except setting the comb blade to the doffer cylinder, and the angle of contact.

Rubber Quill Holder

Shuttles incorporating a new-type molded-rubber holder for filling quills or tubes are now being produced by Southern Shuttle Division of Steel Heddle Mfg. Co., Greenville, S. C. The shape of the holder, and the special shuttle excavation into which it fits, are said to be such that the part can easily be kept securely in place. The holder is shaped to fit the spindle head, the metal base of the quill, and the barrel of the quill. It is said to hold the tube of yarn in proper alignment with the shuttle eye, to reduce vibration, and eliminate moving of the quill or tube on the spindle. The rubber used is of a composition especially adopted to this use and, it is stated, will not crystallize or wear easily.

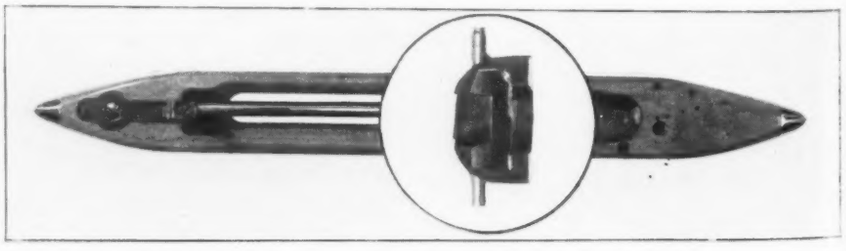
New V-Belt Design

More strength and flexibility, greater service, and longer life are among advantages claimed by Allis-Chalmers Mfg. Co., Milwaukee, Wis., for its line of improved V-belts being marketed under the name "Super 7."

Cords in the new belts are smaller, permitting use of more cords per belt; this is said to result in greater strength and less stretch. Each cord is individually imbedded in heat dissipating rubber to reduce internal belt degeneration. The live rubber bottom cushion is designed to absorb impacts of operation, the central cord portion to transmit power at the effective pitch diameter, the bias-cut fabric to prevent "dishing" and assure transverse stability, and the two-ply rubber-impregnated fabric cover to prevent destructive agents from reaching vital belt elements. The belts are made in matched sets.

Centrifugal Spinning and Twisting

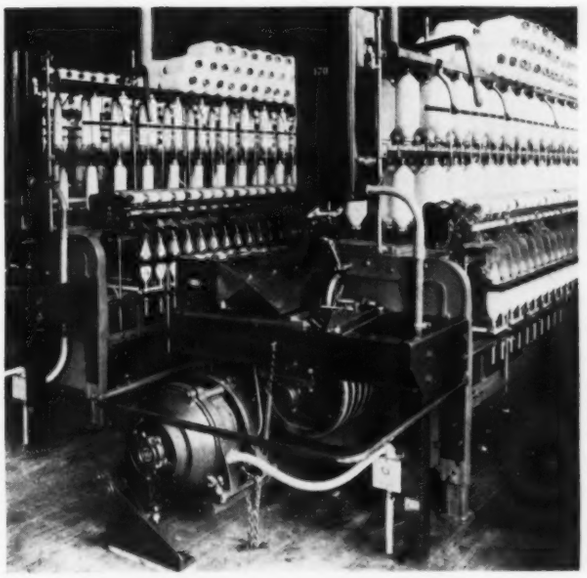
Recently described in *The Textile Manufacturer* is new method of tensionless spinning by centrifugal means, said to be particularly adapted to delicate yarns. Minimum stress on the material being spun, resulting in high production without detriment to the yarn, is said to be assured. The machine is the subject of three British Patents issued



Rubber quill holder for shuttles (Southern Shuttles)

to Prince-Smith & Stells, Ltd., Keighley, England, whose agents in this country are Atkinson, Haserick & Co., 211 Congress St., Boston. Although the machine is not available in this country at the present time, it is expected to be, at some later date.

The untwisted fibers to be spun are delivered from the front rolls to inverted centrifugal cups or yarn holders which have along their center axis a stationary guide tube. Around the stationary guide tube is a traverse guide tube; at its lower end the traverse guide has a yarn guide. The tube is operated by the usual builder motion to produce a cop internally in the yarn holder. By this arrangement the delivery angle, distance between roll and guide, and support of untwisted fibers are maintained always the same.



Variable sheave (Lummus)

Variable Sheave

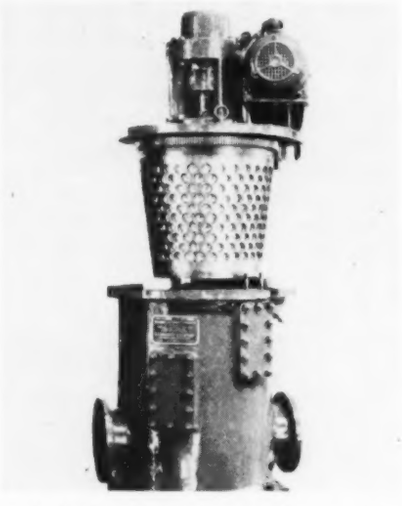
Recently announced by Lummus Cotton Gin Co., Columbus, Ga., is a new variable sheave. As shown in the accompanying photograph, attached to a cotton spinning frame, one set of five B-section V-belts runs from the motor sheave to the cylinder-shaft sheave. The motor is mounted on a pivoted base and part of the motor weight is used to maintain a uniform predetermined tension on both sets of V-belts. Moving the frame supporting the variable sheave by means of the handwheel, so as to change its relative center-to-center distance between the motor and cylinder sheaves, varies the speed. Speed can be changed while the frame is running and requires but a moment.

The new variable sheave is said to consist essentially of two sets of flanges welded to supporting tubular members and carried by ball bearings mounted on a central shaft. The flanges are so arranged that they can move freely axially relative to one another. The V-belts from the driving and driven sheaves are placed alternately. Speed is varied by changing the center to center distance of the variable sheave relative to the driving and driven sheaves. In this way, the alternate V-belts automatically move the flanges so as to operate at larger or smaller pitch diameters in the grooves.

The variable sheave is always placed between the driving and driven shafts; however, the location is not fixed and can be varied to suit the application. The overall mechanical efficiency between the driving and driven shafts is said to be 95% or better. The speed ratio obtainable varies with the belt sections. For a B-belt the ratio is 1 to 1.44, for a C-belt 1 to 1.38, for a D-belt 1 to 1.30, and for an E-belt 1 to 1.23. This speed ratio can be substantially increased by using two sets of grooves in the driving sheave, which gives a high- and low-speed range.

Self-Cleaning Strainer

An automatic self-cleaning strainer for removing suspended solids from liquids and disposing of them continuously, is being introduced to the textile industry by H. A. Brassert & Co., Pittsburgh, Pa. It is expected the apparatus will prove of interest to mill operators having problems in water conditioning or straining. Special screening media designed to cope with different types and conditions of influents so as to prevent clogging and plugging of screens are said to assure continuity of satisfactory operation in removing fine sand particles, fibrous material such as fuzz, hairs, feathers, dead leaves, etc.



Self-cleaning strainer (Brassert)

The strainers are built in units capable of handling up to 24,100 gal. per min. under pressures up to 250 lb. and are rated for a head loss of about 1½ lb. They consist essentially of a thick rotating drum fixed to a vertical shaft, centered within a cast-iron housing. As shown in the accompanying illustration, vertical surfaces of the drum are drilled with rows of holes, into which the screening media are inserted. A washout orifice in the form of an internal vertical slot cast integrally with the housing, is machined and lapped in to the contour of the drum to engage one vertical row of holes on the drum as it rotates.

Water, or other liquid, enters through an inlet at the bottom of the housing, then, rising around the revolving drum, passes through the screening media into the drum. In the process, matter to be strained is accumulated on the screening disks and carried by the rotation of the drum to the washout slot, where it is flushed out by a reverse flow of clean water from inside the drum. Discharge of clean water is effected through an outlet at the bottom of the housing.

Multiple-Disk Clutch

As the result of research work carried out over a period of several years, Carlyle Johnson Machine Co., Manchester, Conn., have developed a multiple-disk type clutch. Indications are the device will be of considerable interest to textile men. Special features cited by the manufacturers include floating plates, said to assure a minimum of drag, abrasion, and heating in neutral; easy manual assembly or disassembly, without use of tools; simplicity of adjustment, which requires only clockwise turning of a knurled ring, after

Double multiple-disk clutch (Carlyle Johnson)

raising a locking spring; and the ease with which engagement is controlled.

The new clutch is available in either wet- or dry-plate types, and in single or double units. The double model is a compact, integral unit, and not a combination of two single clutches.

Water Heater

Johnson Corp., Three Rivers, Mich., has announced a new all-steel, lower cost version of the company's "Instant" water heater. It is used to heat water and other liquids with steam and, it is stated, can be hooked up to high-pressure steam lines without any need for reducing valves. The heater is designed to make possible long water travel in contact with steam heated surfaces, with a minimum of parts. This design, it is claimed, achieves a high rate of heat transfer and gives large capacity from a compact unit.

The outer shell of the heater is heavy wrought-steel pipe. Two concentric smaller pipes are centered within, so that a steam chamber is formed between the outer wall of the smaller pipe and the inner wall of the surrounding pipe. Water is admitted to the central pipe, where it encounters a spiral baffle which creates turbulence and also increases the length of travel in contact with the heated wall. The water then returns back to the outlet through the outer chamber, where another spiral baffle multiplies its length of travel and velocity along the surface of the hot steam chamber.

Use with steam pressures as high as 150 lb. in standard types and as high as 250 lb. in special heavy-duty types is said to be possible.

Useful Accessories for Textile Mills

A fluorescent lighting unit which turns on and off in the same manner as a conventional incadescent unit, is being offered by Fostoria Pressed Steel Corp., Fostoria, Ohio. The unit accommodates two 40-watt Mazda F lamps and operates without starting switches, thus obviating switch replacements. Standard reflecting surface is baked matte-white enamel; gloss white baked enamel is optional.

An inclosed circuit interrupter of high interrupting capacity and reduced mounting space is announced by Westinghouse Electric & Manufacturing Co., E. Pittsburgh, Pa. Known as Nema Type 1A, the interrupter is designed for use in industrial plants, central stations, substations, and locations where inclosed unfused safety switches might be applied. The interrupters have 50 to 600 amp. ratings on 250 to 600 volts a.c., and 125 to 250 volts d.c. lines.

Painting of new plaster and masonry with oil paint is the purpose of Bondlite, developed by Wilbur & Williams Co., Park Square Bldg., Boston. It is stated the paint can be used over brand new damp plaster or brick, concrete, cement, or stucco, though only one day old. The new paint can be obtained in interior and exterior types.

Toggle type barrel dumping harnesses are being offered by Lewis-Shepard Sales Corp., Watertown, Mass. The new device is said to speed up and make more efficient handling and dumping of barrels and drums. A standard type barrel hoop truck deposits the drum directly into the harness. The harness is equipped with a spring toggle, is arc-welded throughout, and can be made for any size of drum.

Float switches in explosion-resisting and water-tight types have been announced by Square D Co., Detroit, Mich. Inclosures in both cases consist of a heavy cast-iron cover and base. A rubber gasket is provided for the water-tight type and on the explosion-resisting type surfaces between the cast iron cover and base are carefully machined. Sizes are available for 110 to 550 volts a.c. or d.c.

A daily tear-off device for strip-chart recorders has been introduced by Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia. The new device is made to fit Micromax recorders, and can be quickly and easily attached. The manufacturers point out that when used, there is no wasted chart, and it is not necessary to rethread the chart through the guides. A rubber stamp can be furnished with identifies the recorder and the location of the thermocouples.

A pressure reducing valve incorporating improvements is being marketed by Northern Equipment Co., Erie, Pa. It is a relay-operated unit for remote control from a master controller. Various operating parts have been strengthened and arranged more compactly; the valve is available in sizes from 1 to 14-in. and for 125 to 1,500 lb. pressure.

A plastic dispenser for Hydrion pH test papers throughout the range pH 1 to 14 has been announced by R. P. Cargille, 118 Liberty St., New York. Described as vest-pocket size, the new dispenser holds and seals two 15-ft. rolls of test paper. Color charts for comparison purposes are visible through transparent walls.

Paratex Metal Coating, a new type rubber-base paint, has been introduced by Truscon Laboratories, Detroit, Mich. It is said to brush well and dry fast, to be unaffected by water, and resistant to chemicals. The manufacturers state the paint is especially adapted to all types of exposed iron and steel.

A swing check valve has been announced by Jenkins Bros., 80 White St., New York, for 125 lb. steam pressure at 500° F. and 250 lb. non-shock cold oil, water, or gas. The valve, is said to be particularly suited for condensate and return lines, as well as for feed and oil line service. A feature cited is that the disk can be reground without removing the valve from the line. The new valve is made in sizes from ¼ in. to 2 in.

An automatic double reset timer has been announced by R. W. Cramer Co., Inc., Centerbrook, Conn. Either conduit or BX type wiring may be used and the housing may be locked as a protection against alteration of critical timing of industrial processes. The furnishing of a 10 second impulse every 90 seconds for signaling or heating control purposes is a typical application. The timers are furnished for 110 or 220 volt and 50 or 60 cycle operation and time ranges available for the individual timers are 15, 30, 50, and 120 seconds, maximum. Current carrying capacity of the switches is 10 amperes at 110 volts 60 cycles.

Industrial Multi-Breakers were recently put on the market by Trumbull Electric Mfg. Co., Plainville, Conn. They are 2 and 3-pole types, 230-volt, A. C. rating; and are supplied in two frame sizes, M-1, 50-amp. maximum and M-2, 100 amp. maximum.

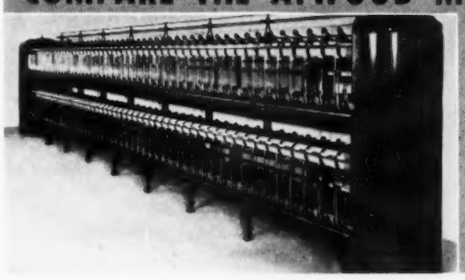
Think what this would mean to you and to those who knit or weave your yarns.

You'd be sure of all the yarn you want, when you want it, every yard of it clean and uniform, and on the one best size and weight of package for the job. What a difference it would make to the efficiency and economy not only of your yarn production but of the following operations.

The Atwood *Model 110* Twister represents the very last word in twister design and construction. It's backed by all the skill and experience of the largest and longest established builder of rayon and silk machinery. It has already proved itself in the field.

From every standpoint — yarn quality, quantity of production, low cost per pound of yarn — you are justified in immediate standardization on the Atwood *Model 110* Twister. May we give you the whole story?

COMPARE THE ATWOOD MODEL 110 WITH ANY OTHER TWISTER OLD OR NEW



Twist range 1.4 to 70 turns, right or left; 3½ to 6" traverse for bobbin or headless packages; extra large ball bearing mounted traverse cam with back lash eliminator; improved ball bearing, self lubricating twist unit; extra strong spindles with permanent tension control and resilient brakes; three-point motor mounting on ball bearing wheels with accurate belt tension adjustment; the simplest, most dependable Twister ever built.

THE ATWOOD MACHINE COMPANY

STONINGTON CONN., U. S. A.

SALES OFFICES: WILKES-BARRE • STONINGTON • CHARLOTTE • LOS ANGELES • MANCHESTER, ENGLAND
BUENOS AIRES • SAO PAULO • MEXICO CITY • MELBOURNE • SYDNEY • BOMBAY • MADRAS

New Dyes and Chemicals

General Dyes

General Dyestuff Corp. announces the following new products: Acid Alizarine Bordeaux BLT, a homogeneous chrome color which produces deep bluish red shades of good fastness to light, and very good fastness to washing, fulling, water, sea water, and perspiration; dyeings obtained on a chrome mordant are slightly brighter and bluer than those obtained by the afterchrome process.

Fast Sulphon Black A, an acid dye which produces greenish shades of black possessing good fastness to crocking.

Para Brown GKA, a direct dye which produces attractive shades of yellow brown when coupled with Nitrazol CF Extra; dyeings have good fastness to washing, water, perspiration, and hot pressing; Para Brown GKA can be discharged to a good white with either a neutral or an alkaline Rongalite C paste.

Plasticizer

Development of a new plasticizer for increasing the flexibility of coatings made with clay dispersions has been announced by Glyco Products Co., 230 King St., Brooklyn, N. Y. This plasticizer, designated as S-376, can be stirred directly into the clay coating mixture. The procedure recommended is to add the clay, carnauba wax emulsion, etc., to the pre-cut casein solution, stirring until completely dispersed. Then add, with high-speed agitation, approximately 10% of the plasticizer based on the total solids of the clay mixture. The final dispersion is said to stable, improve the calendering operation, and give greater water resistance.

Deodorant

To help combat the problem of maintaining proper sanitation standards in washrooms and related plant facilities, Oakite Products, Inc., 42 Thames St., New York, has developed Oakite Deodorant No. 1. This is described as a triple-action material combining deodorizing, detergent, and disinfecting properties; and affording an effective means, in one operation, of carrying out sanitation routines more easily and within specified time and cost limits.

A dry, white, free-flowing powder, used in cold water, the material is designed specifically for use in connection with deodorizing and cleaning washrooms, shower stalls, first-aid rooms, lavatories, and locker rooms. Odorless itself, the product is said not only to dissipate and neutralize odors without masking or covering up one odor with another, but also to provide effective dirt and grime removal action on cement, tile, and porcelain surfaces. In addition, its disinfecting properties are cited as helping provide added protection against harmful organisms.

New Publications

Screen Printing

THE SILK SCREEN PRINTING PROCESS, 2nd Edition; Bigeleisen and Busenbark, McGraw-Hill Book Co., 330 West 42nd St., New York; $2.75.

Many textile men do not realize that the screen printing process is employed for producing designs on glass, paper, cardboard, oilcloth, metal, wood, and other non-textile materials. They do not realize that printing mediums include Japan colors, oil paints, metallic paints, water colors, and enamels, as well as dyes. Although this book deals mainly with the printing of non-textile materials, it contains many hints and suggestions which should be of interest to screen printers of textiles. Of least value to textile men is the short section on textile printing. In fact, this section contains several errors, such as misspelling of "Rapidogen"; inadequate and inaccurate descriptions of classes of dyes employed; and faulty outline of processes. This undoubtedly is due to the fact that the authors are less familiar with textile printing than with other fields of screen printing.

Chemists' Handbook

HANDBOOK OF CHEMISTRY, 4th Edition; Lange, Handbook Publishers, Inc., Sandusky, Ohio, $6.

Bigger and better than the first three editions, this new edition of Lange's handbook, should be found in the library of every textile chemist. Data throughout have been brought up to date, several new tables have been added, and a number of others have been extended or entirely rewritten.

Manufacture and Use of Textiles

TEXTILE FIBERS AND THEIR USE, 3rd Edition, Revised; K. P. Hess, J. B. Lippincott Co., Washington Sq., Philadelphia; $3.

Intended primarily to give consumers a knowledge of fundamental facts concerning textile fibers and fabrics made from them, this book is of interest also to textile students and to men in the dustry who wish to obtain a general over-all picture of textile manufacturing operations and of textiles from the consumer viewpoint. The new edition represents a thorough revision and expansion of the subject matter necessitated by recent developments in the textile field.

A Captain of Industry

SALT OF THE EARTH—The story of J. B. Ford and Michigan Alkali Co.; Arthur Pound; Atlantic Monthly Co., 8 Arlington St., Boston; $2.

In 1890, when he was 79 years old, Captain John B. Ford, officially started Michigan Alkali Co. going by the simple process of paying $1,000 into the treasury of new enterprise, J. B. Ford & Co., which title was changed a little later to the present one. The story of Captain Ford, before and after he founded that company, and the history of Michigan Alkali Co. constitute one of the sagas of American Industrial history. To the many textile men who have had dealings with Captain Ford and the Michigan Alkali Co., this book will be specially interesting.

Publications of Interest to Textile Men

WOVEN TEXTILE FABRICS—TESTING AND REPORTING, 3rd Edition; U. S. Government Printing Office Washington, D. C. 10¢. This is Commercial Standard CS59-41, covering methods for testing and reporting strength, colorfastness, shrinkage, and resistance to yarn slipping of woven fabrics.

SWEET POTATO STARCH AS A SIZING AGENT IN THE TEXTILE INDUSTRY; Omar C. Moore, Engineering Experiment Station, Alabama Polytechnic Institute, Auburn, Ala. Booklet describes experimental slasher and method of testing sized yarns, and discusses laboratory

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1899

1941

At Sonoco we have always realized that we need our customers more than they need us.

These customers whom we have served as a dependable source for their supplies have been our most dependable source of sales — and it is upon our sales that we have built the research and manufacturing facilities that have made Sonoco the leading dependable source of supply for textile paper carriers.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

sonoco SERVES THE WORLD PAPER CARRIERS

and mill results in sizing cotton warps with potato starch.

MOBILITY OF WEAVERS IN THREE TEXTILE CENTERS; Wharton School of Finance and Commerce, University of Pennsylvania, 3440 Walnut St., Philadelphia. Reprint of article in the May, 1941, *Quarterly Journal of Economics*, discusses occupational characteristics of weavers, job changes made by weavers, etc., in Manchester, N. H., Paterson, N. J., and Philadelphia.

KAPOK; Stephen J. Zand; Trade Commissioner for the Netherlands Indies, 10 Rockefeller Plaza, New York. Contains a survey of the history of kapok cultivation and uses, with special consideration of its application to thermal and acoustical treatments.

PLASTICS IN INDUSTRY, Chemical Publishing Co., Inc., 234 King St., Brooklyn, N. Y. $5.00. Describes at length what plastics are and how they are produced; contains ten chapters on uses of plastics in individual industries, including textiles.

NEW ENCYCLOPEDIA OF MACHINE SHOP PRACTICE; edited by George W. Barnwell, Wm. H. Wise & Co., Inc., 50 W. 47th St., New York. $1.98. Contains 16 chapters on as many phases of machine-shop practice, each written by a specialist in the field. Typical headings are Bench Work, Lathes, Milling, Punching and Stamping, Heating and Welding, Forging, Gages and Testing.

THE DESIGN OF MANUFACTURING ENTERPRISES, Walter Rautenstrauch, Pitman Publishing Co., 2 W. 45th St., New York. $3.50. A book designed to guide engineers and students of engineering through the problems of economic calculation; covers essential principles and methods of cost calculations used in designing and redesigning manufacturing enterprises.

News of Suppliers

George M. Porges has organized "George M. Porges Associates" as of Sept. 1, 1941. Offices have been established at 347 Fifth Avenue, New York, N. Y. Mr. Porges states the new company is specializing in creative lithography for the general textile industry. Box wraps and all packaging accessories for hosiery, underwear and textile specialties of every kind are created and produced with the benefit of Mr. Porges' long and intimate experience with textile merchandising. Until his resignation on Aug. 1 as vice-president and director of Kaumagraph Co., after an association of over 20 years, Mr. Porges directed that firm's sales and advertising activities.

Taylor Instrument Cos., Rochester, N. Y., have appointed Wallace W. Lockwood as advertising manager, to replace Elmer E. Way, who has resigned. A graduate of Auburn High School and Syracuse University, Mr. Lockwood joined the Taylor advertising department in 1932 and was made assistant advertising manager in 1939. He was previously connected with the Lapp Insulator Co., Leroy, N. Y., the Z. L. Potter Advertising Agency and the David Tynion Advertising Agency, both of Syracuse.

E. H. Jacobs Mfg. Co., Danielson, Conn., and Charlotte, N. C., is increasing its service personnel. Lieut. Dan B. Griffin has returned to the company after a year of active duty with the U. S. Army and takes charge of service to all textile weaving mills south of the Mason-Dixon Line. Mr. Griffin will make his headquarters in Georgia or Alabama. H. McM. Bush, M.I.T. graduate engineer, has established headquarters in Greensboro as Mr. Griffin's assistant. The E. H. Jacobs Mfg. Co. is this year celebrating its 72nd anniversary.

DAN B. GRIFFIN, who has returned to E. H. Jacobs Mfg. Co. after a year of active duty in U. S. Army.

H. McM. BUSH who will assist D. B. Griffin in covering southern weaving mills for E. H. Jacobs Mfg. Co.

JOHN W. LASELL, director of the Whitin Machine Works, Whitinsville, Mass., has been appointed director of the Massachusetts Aeronautics Commission. He succeeds Crocker Snow. Mr. Lasell was a flier in the World War, and held a pilot's license from 1929 to 1932. As a member of the Massachusetts legislature from 1932 to 1940, he had a responsible part in drafting the State law governing aviation.

Cameron Machine Co., Brooklyn, N. Y., plans a $100,000 extension to their assembly floor. The company is experiencing exceptional demand from the paper, rubber and fabric industries for its slitting and rewinding machines and the building will speed up the output of machines, many of which are used in connection with defense contracts.

James Hunter Machine Co., North Adams, Mass., has begun erection of two-story addition, about 40x135 ft., for which general contract recently was let to the Aberthaw Co., Boston, Mass.

J. E. Sirrine & Co., Inc., Greenville, S. C., mill architects and engineers, have begun work on one-story and basement addition at rear of present main building, for expansion in drafting division. Henry B. McKoy Co., Greenville, has contract for erection.

Larkin Reed Co., Danielson, Conn., has been sold by Earle Bassett to Norman Ross who will continue to operate it.

Quaker Chemical Products Corp., Conshohocken, Pa., has engaged Herbert Fulton, with many years experience as overseer of finishing in wool goods mills, to be its sales representative in New England. Mr. Fulton is a former president of the National Association of Woolen and Worsted Overseers.

Elastic Stop Nut Corp., Union, N. J., has announced a reduction in list prices on 30 items of its anchor type nuts.

United States Testing Co., Hoboken, N. J., has been appointed distributor of the Sterilamp made by Westinghouse Electric & Mfg. Co. Sterilamp is ultraviolet light equipment for control of mildew and bacteria.

Marion Mfg. Co., Atlanta, Ga., has opened a new unit at Burlington, N.

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AVIATION INSTRUMENT BEARINGS

no bigger than a pinhead—yet precise
and stronger than the jewels they replace

to

HUSKY BEARINGS FOR TANKS

more than a foot in diameter and strong
—with the endurance of forged steel

These two extremes and hundreds of sizes in between—for implements of Defense and in machines to make them—New Departure pioneers in the bearing of *Quality*

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THE FORGED STEEL BEARING

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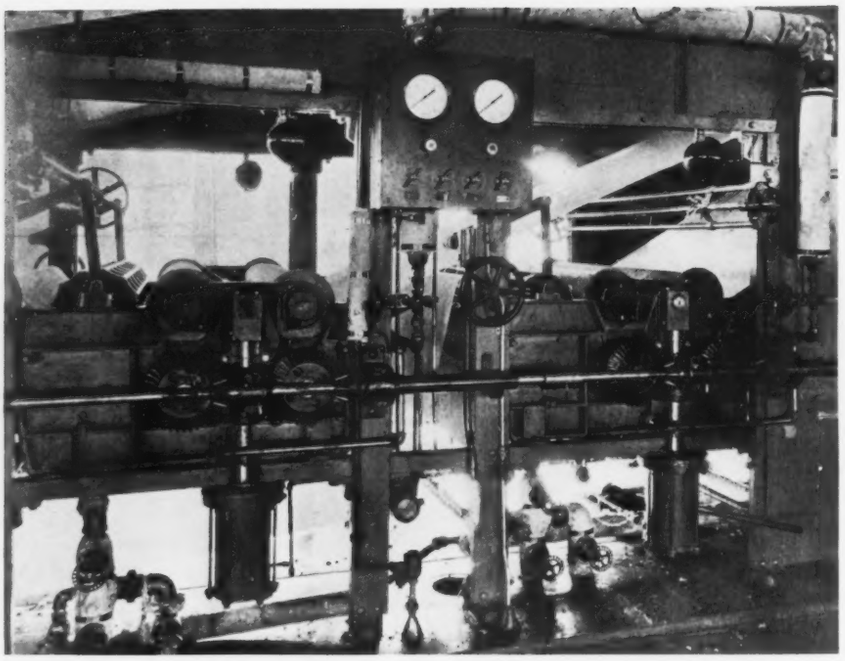


PNEUMATIC LOADING, one of the newer methods of obtaining equalized pressure on rollers, is shown here applied to a warp slasher at Lockwood Co., Waterville, Me. Installations of this type are said to make possible speed increases of up to 50% or more, and to give absolutely equal pressure on both sides of squeeze rolls. Foxboro Co. supplied the loading equipment

C. The company makes dry transfers used in the hosiery industry.

National Oil Products Co., Harrison, N. J., has erected eight storage tanks, adding nearly 250,000 gal. to the bulk storage capacity at its Harrison, N. J., plant, and bringing the total storage capacity to 3,000,000 gal.

Armstrong Cork Co., Lancaster, Pa., has replaced its recent radio program with one entitled "Armstrong's Theatre of Today." This will feature an original drama written during the preceding few days before the broadcast against a background of one of the top news events of the week. It will be broadcast every Saturday at 12 Noon (Eastern Standard Time) over a 105-station network of Columbia Broadcasting System.

Bristol Co., Waterbury, Conn., has transferred H. R. Bristol from its Chicago office to its Boston office. J. E. Booth will take over the territory in the Chicago district vacated by Mr. Bristol.

G. E. Institute, Nela Park, Cleveland, has postponed the Elementary Commercial & Industrial Course on lighting, originally scheduled for early September, until Oct. 27 to 31. The Advanced Commercial & Industrial Course, originally scheduled for Oct. 6 to 10, has been shifted to Nov. 3 to 7. An Industrial Executives' Conference will be held on Nov. 10 and 11.

Crane Co., Chicago, has elected J. L. Holloway as vice-president in charge of finance. W. H. Winslow, Jr. was elected secretary.

Manning, Maxwell & Moore, Inc., Bridgeport, Conn., have appointed Harry G. Johnson as territorial salesman for Indianapolis. Mr. Johnson will cover the territory formerly handled by Gerald Beebe, who has been extended a leave of absence due to illness.

Hercules Powder Co., Wilmington, Del., has elected R. N. McAdams, as secretary. He was previously assistant secretary and assistant treasurer. He fills the vacancy created by the death of H. F. Smith.

York (Pa.) **Ice Machinery Corp.** has appointed Edgar F. Heckert as special assistant to the general works manager, advancing him from his previous position as manager of the service department of the company.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has issued the first number of a news-sheet devoted exclusively to defense production news. Called "*Defense Production News*," it will present a monthly report stressing the importance of the company and its 1,600 products in the Defense picture.

Hygrade Sylvania Corp., Salem, Mass., sponsored a Fluorescent Lighting Conference at Salem, Sept. 8 and 9. Lighting engineers were present from the Metropolitan New York, Philadelphia, Buffalo, Connecticut, and Washington, D. C., districts. Donald P. Caverly, who is a commercial engineer on the Hygrade staff, presided, and 10 Hygrade experts read papers.

Monsanto Chemical Co., St. Louis, has promoted Arthur B. Kroeger from assistant general branch manager of the Los Angeles office to assistant manager of sales in charge of intermediates, with headquarters at St. Louis. Charles L. Fetzner has been transferred from the San Francisco office to Los Angeles as assistant general branch manager to replace Mr. Kroeger.

Wickwire-Spencer Steel Co. and its subsidiary, the American Wire Fabrics Corp., New York, appointed George L. Randall as advertising manager. He has been assistant advertising manager since 1935. The appointment follows the resignation of K. A. Zollner, advertising manager of the company for the last 15 years.

Dayton Rubber Mfg. Co. Expands

Dayton (Ohio) Rubber Mfg. Co. sent its principal officials to Waynesville, N. C., in August to welcome the large contingent of Haywood County citizens who attended the barbecue and dance which inaugurated the company's new rubber manufacturing plant there. Dinner was served to 3,900 guests. Master of ceremonies was Jonathan Woody, president of the First National Bank of Waynesville. From among the public-spirited citizens were organized a barbecue committee, house committee, reception committee, ladies committee, transportation and safety committee, and door-prize committee.

The new buildings, representing an investment of $100,000, were started last March. Plans were prepared and the work carried out under direction of Feyer & Neuffer, architects and engineers of Dayton, Ohio. General contractor is Merchant Construction Co., Asheville, N. C. The building is one-story, with concrete floors, large unobstructed working areas, large window surfaces, and an efficient system of fluorescent lighting. Equipment is being installed and the plant will soon be in operation. Key men only will be brought from Dayton, as the company expects to draw entirely on the local labor supply for the needed 300 employees. This plant is strategically located to furnish the Southeast with a full line of textile products, including roll coverings and loom supplies.

A. L. Freedlander, president and gen-

RIGHT, dress!

A *new command* becomes familiar to preparing America, just as knitters recognize it as being an old one to consuming America. • To meet changing styles, knitters have long relied on Dixie durene to assure a higher note of perfection in modern merchandise. Knitters strive for perfection in styling . . . Dixie produces quality in yarn. • Ask a Dixie representative for samples, or write the Chattanooga office.

Dixie MERCERIZING CO., Chattanooga, Tenn.

Dixie Durene . . . A Product of Controlled Manufacture

AMERICAN COTTON MADE IN U·S·A

Dixie durene gives a garment merchandising qualities . . . with its double perspiration absorbing and evaporating qualities.

AT DAYTON RUBBER MFG. CO.'S open house: (left to right) H. S. Mooradean, factory superintendent; P. T. Mayle, comptroller; R. L. Wetzel, advertising director.

eral manager, was enthusiastic over the fine spirit of cordiality and cooperation. Accompanying him from Dayton, Ohio, were C. E. Hoover, vice-president; William C. Pickrel, general counsel; E. A. Baker, treasurer; P. T. Mayle, comptroller; H. S. Mooradean, factory superintendent; R. M. Weimer, personnel director; R. L. Wetzel, advertising director.

Sonoco Says "Management Must Lead" in Safety Campaign

Under the title "Management Must Lead" in the August, 1941, issue of *American Mutual Magazine*, is told the story of the highly successful safety program in the plants of Sonoco Products Co. Charles W. Coker, Jr., Sonoco vice-president, is the spokesman. Back in 1934 the company set up safety councils and a complete installation of machine guards, yet there was little change from the previous accident experience. In 1936, the management decided to make itself the spearhead in a drive against accidents, by attending safety meetings, providing periodic dinners with speakers on safety and safety films, supplemented by stunts and contests, as well as a general health program. From that day the accident rate dipped sharply downward and has been reduced by more than 87%. In the Hartsville, S. C., plant (one of Sonoco's six), 1,400 are employed, of whom 95% are men, and automatic machinery turns out 1,200,000 cones per day.

"All of the things we have done to promote safety," says Mr. Coker, "have also helped to establish a better understanding between management and men. In my mind, there is no doubt that plant safety and good employee relations go together. If you have one, you are almost certain to achieve the other."

Union Special Builds New Warehouse at Atlanta

Union Special Machine Co., of Chicago, broke ground Aug. 27 at the site of their new warehouse and office building on Spring Street, N. W., Atlanta, Ga. More than 100 friends and officials of the company were present, many of them being visitors at the Southern Garment Manufacturers' Association convention being held in Atlanta at that time.

Officials from the company's Chicago office were Capt. T. S. Whitsel, general sales manager; A. E. Brauch, manager technical division; and C. L. Rosenquist, also of the technical division. Among branch managers of the company present were P. T. McLendon, manager Southeastern Branch, Atlanta; William Bleicher, New York; E. E. Gratsch, St. Louis, Mo.; W. E. LeRoy, Cincinnati, Ohio; M. O. Moulton, Jackson, Miss.; L. F. McGwier, Greensboro, N. C.; and O. S. Bachelor, Greenville, S. C.

Construction will start immediately and the company expects to occupy its new quarters by Jan. 1. The new building will provide three times the space now being used by the Southeastern branch at 155 Spring St., N. W.

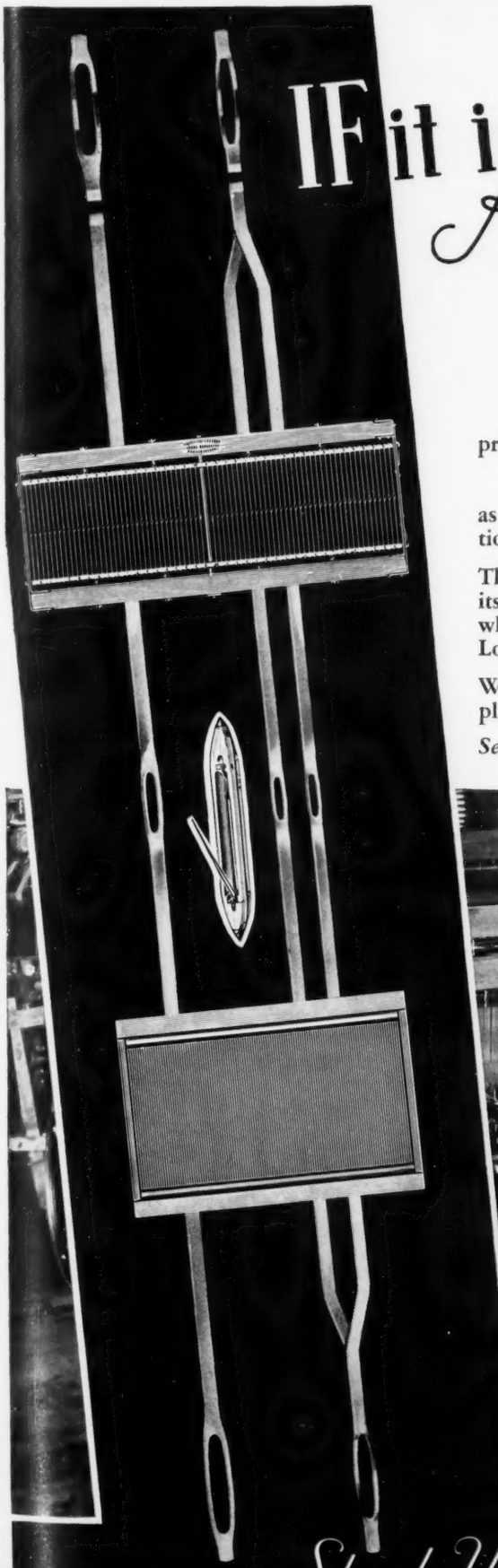
P. T. McLENDON, manager, southeastern branch, Union Special Machine Co., after breaking ground for their new building in Atlanta, Ga., receives the congratulations of friends.

Financial Data on 12 Textile Machinery Corporations

A report on "Textile Machinery and Sewing Machine Manufacturing Corporations" in the Federal Trade Commission's project for the collection of annual financial reports from a large number of industrial corporations, has been issued.

The combined net income of 12 selected manufacturers (before deduction of interest on long-term borrowings and income taxes) on the average total capital of $223,010,371 employed by them in 1939, was $9,932,495, a return of 4.5% on the capital for the year. This average rate of return represented individual rates ranging from a loss of 1.9% to a profit of 18.2%. Net income for 1939 on the average corporate net worth investment, or stockholders' equity, after provisions for income taxes, was $7,238,714, a return of 3.3% on the stockholders' investment. Rates for individual corporations on this base ranged from a loss of 1.9% to a profit of 16.3%.

The 1939 operating ratios of the 12 corporations show that cost of goods sold (exclusive of taxes, social security and pension fund payments, selling expenses, administrative and general office expenses, research and development expense, etc.), represented 51.8% of the total sales. Of the total cost of goods sold, raw materials represented 24.1% of sales; production wages and salaries, 15.1%; other costs and expenses (not listed under "Expenses"), 5.1%; depreciation and obsolescence applying to production facilities, 2.1%; and finished goods purchased for resale, 5.4%. Items listed as expenses represented 40.8% of total sales. Of which selling expenses represented 33.2%: advertising, 0.8%; administrative and general office expenses, 2.9%; all taxes (except income taxes and social security payments), 2.1%; social security and pension fund payments, 1.2%; and research and development expense, 0.6%. After deduction of the items listed as expenses, together with the provision for uncollectible accounts of 3.5%, from the gross margin on sales plus other operating revenue, there remained a net profit of 3.9c from every dollar of sales.



IF it is A New Combination Warp Fibre.....

You contemplate weaving,

profit from the experience of the

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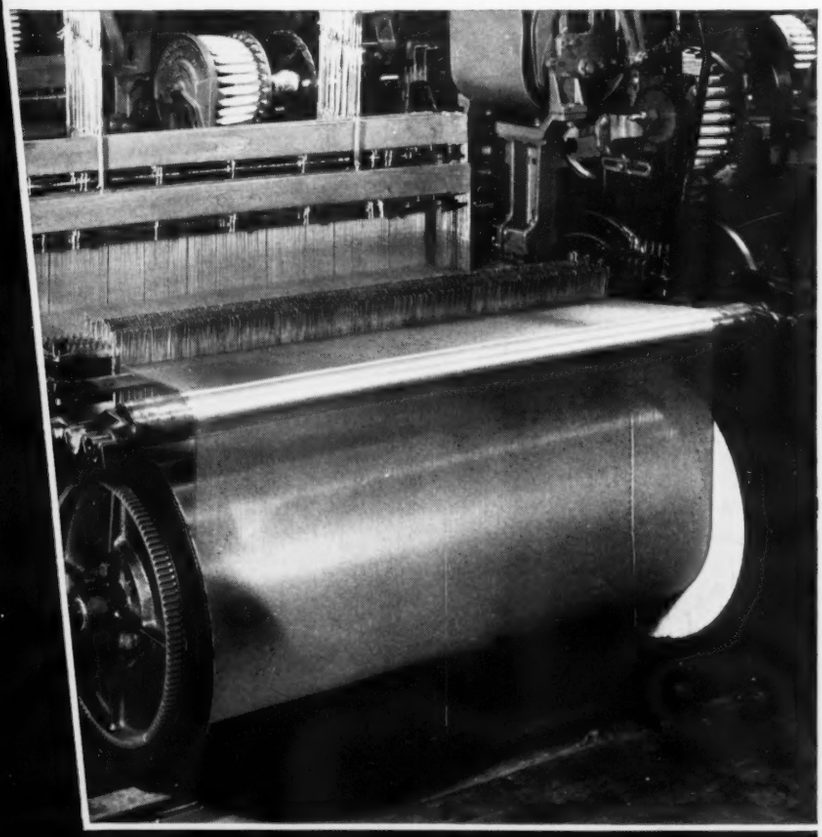
as regards the proper Harness for its efficient and economical production.

There is *a definite* Heddle, Frame, Shuttle, Reed, etc., *best* suited for its weaving. Consult with and specify the product of the Company who is doing the pioneering in developing the most advantageous Loom Harness Equipment for the present day weaving.

We carry tremendous stocks and have the capacity of four large plants to assure you as prompt deliveries as can be had today.

Send in your orders and inquiries.



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Manufacturers of Superior

FLAT STEEL HEDDLES—HARNESS FRAMES—ALL TYPES OF LOOM REEDS—
TEMPERED DOGWOOD SHUTTLES—LOOM HARNESS ACCESSORIES

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FIELD ENGINEERS IN EVERY DISTRICT

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Automatic winding of filling bobbins for all classes of work is the subject of a new descriptive booklet issued by Whitin Machine Works.

Fluorescent lighting is the topic of a new booklet titled "50 standards for satisfaction," prepared by Fleur-O-Lier Manufacturers.

Brushes for shears, brushing machines, printing machines, and other textile equipment, featuring Nylon bristles and cold-drawn steel or aluminum cores, are described in a booklet recently issued by M. W. Jenkins' Sons, Inc.

Stainless - Steel dyeing equipment is the subject of an illustrated folder giving data on advantages obtainable with machines produced by S. Blickman, Inc.

Materials handling equipment as a means of increasing plant capacity, a short article on the old Slater Mill, and a cartoon on the current silk-hosiery situation, are included in the September issue of *The Swirling Column*, issued by American MonoRail Co.

Power-transmission equipment, such as bearings, clutches, pillow blocks, pulleys, and sheaves, are the topic of a bulletin by T. B. Wood's Sons Co.

Clothroom rearrangement, in order to facilitate handling of fabrics, is the subject of an article illustrated with "before and after" diagrams, included in the August issue of *The Clothroom Spotlight*, published by Hermas Machine Co.

Electrical machinery is described in a 46-page data book which gives in simple language answers to 144 frequently asked questions; prepared by Fairbanks-Morse Co.

Isolation of vibration in machines is the subject of a 12-page catalog section on Vibro-Insulators, developed for combatting vibration and noise problems in industry by B. F. Goodrich Co.

A continuous cloth-feed control for dyeing machines, known as the Duplex Take-Over, is described and its advantages listed in Bulletin TM 741, prepared by Rodney Hunt Machine Co.

Angle tool attachments, for attachment to portable drills and other hand tools to make it possible to use them in hard-to-get-at places, are described in an 8-page illustrated folder issued by Invincible Tool Co.

Winding two ends at once on to filling bobbins, a new traverse bar lever, and supply packages and winding bobbins for automatic winders are discussed in No. 28 of a series of folders distributed by Universal Winding Co.

Chemicals for discharge printing and for vat-dyeing and stripping are discussed in issues Nos. 3 and 4, respectively, of the *Royce Chemical Reporter*, distributed by Royce Chemical Co.

pH control is the topic of a 12-page pocket-size booklet giving concise answers on what pH is, how it is measured, the importance of proper pH control, and equipment for pH indication: offered by National Technical Laboratories.

Elimination of dust and soot from the air in textile mills, thereby aiding in prevention of smudging, streaking, and discoloring of yarns and fabrics is the subject of Bulletin No. 250D, which discusses equipment for the purpose; distributed by American Air Filter Co., Inc.

A chemical process for increasing the rapidity with which textile fibers take up moisture is described in a folder issued by Sorbtex Foundation, Inc.

Modern rayon throwing equipment, including a twister and a 5-B machine is pictured and described in the August issue of *Atwood Twists*, distributed by Atwood Machine Co.

Lock hooks for harness frames are the topic of a folder describing the latest types of hooks manufactured by Steel Heddle Mfg. Co.

Chemical services rendered by its members are listed in a 4-page folder prepared by Association of Consulting Chemists & Chemical Engineers, Inc.

Waste-end conveyors for woolen cards, as manufactured by this company, are briefly described in an illustrated folder issued by Rushton-Carroll Co.

Machinery for defense is the subject of the first issue of a new publication titled *Defense Production News*, distributed by Allis-Chalmers Mfg. Co.

Looms of several types installed in a variety of mills, and new quarters of its engineering department, are featured in issue No. 13 of *Photo News*, issued by Crompton & Knowles Loom Works.

Use of roller bearings on machinery for a wide variety of services, including a rubber-covering frame in a textile mill, is pictured in Vol. 14, No. 2 of the *Hyatt Rollergravure*, distributed by Hyatt Bearings Division, General Motors Sales Corp.

Increasing production with modern accessories and supplies is discussed in the August issue of *Davis & Furber News*, issued by Davis & Furber Machine Co.

Processing oils for textiles, lubrication of card comb boxes, and selection of belts for drives, are items of interest to textile men in the July-August issue of *The Houghton Line*, issued by E. F. Houghton & Co.

Desizing of textiles is the subject of a revised edition of the booklet titled "Notes on Exsize", which describes the need for desizing, gives properties of Exsize, and tells where and how it should be used; issued by Pabst Sales Co.

For detecting vibration and measuring it, in equipment such as motors, generators, and other rotating machinery, a pocket-size vibrometer is described in a new leaflet, No. 85-910, announced by Westinghouse Electric & Mfg. Co.

Automatic controls for dyeing machinery as used in cotton, woolen, and hosiery finishing plants are pictured and described in Data Sheet No. 27, issued by Bristol Co.

Fiber products, including bobbins, gears, shuttles, tubes, cans, etc., are described in an engineers handbook issued by National Vulcanized Fibre Co.

V-belt drives and the advantages they make possible on a number of machines, including winders in textile mills, are the subject of illustrated articles in the September issue of *Industrial News*, published by Gates Rubber Co.

Mechanical meters for indicating, controlling, and recording of flow and liquid level are discussed in a 16-page catalog designated No. 2204, and issued by Brown Instrument Co.

Functions of sodium silicate in detergency, and action of silicates in hard water, are discussed in the August issue of *Silicate P's & Q's*, issued by Philadelphia Quartz Co.

Fluorescent fixtures for holding two 100-watt lamps are described in Bulleton F-45, which gives specification data, prices, etc.; offered by Daybrite Lighting, Inc.

Feed-water chemistry is discussed in a 12-page booklet giving fundamental reactions involved in water softening, and data on interpretation of water analyses; distributed by Cochrane Corp.

Steel strapping and the part it is playing in the defense program is highlighted in issue No. 4 of *Acme Process News*, which contains an article, photograph, and list of textile defense products which are shipped in steel-strapped containers; issued by Acme Steel Co.

Shop equipment, such as work benches, stools, stock and tool carts, cabinets, etc., are listed in 40-page Catalog 331-D, prepared by Lyon Metal Products, Inc.

Motors trade-marked "Lo-Maintenance," in ratings from ¾ to 75 hp., and in open, inclosed, and splash-proof types, for a.c. and d.c. service, are briefly described in Bulletin B6052-B, distributed by Allis-Chalmers Mfg. Co.

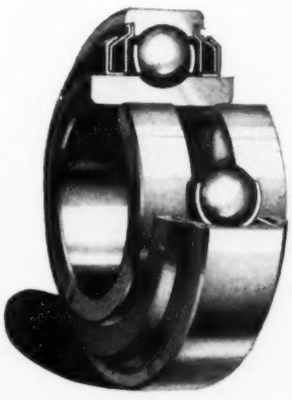
An aluminum bibliography is given in issue No. 1 of the *Aluminum Service Bulletin*, which gives brief descriptions of 100 publications on various phases of aluminum in defense; issued by Aluminum Co. of America.

A new V-Belt, known as the "Super-7," is described, and its advantages listed, in Bulletin B-6190 issued by Allis-Chalmers Mfg. Co.

POSITIVE MECHANICAL ACTION

Assures Uniform Quality on New

WHITIN HIGH SPEED WARP KNITTING MACHINE



FAFNIR "MECHANI-SEAL" BALL BEARING

A 100% effective mechanical seal. No drag. Nothing to wear out. No dirt can enter, no grease escape.

20 Fafnirs Help Make That Action Positive and Friction-Free

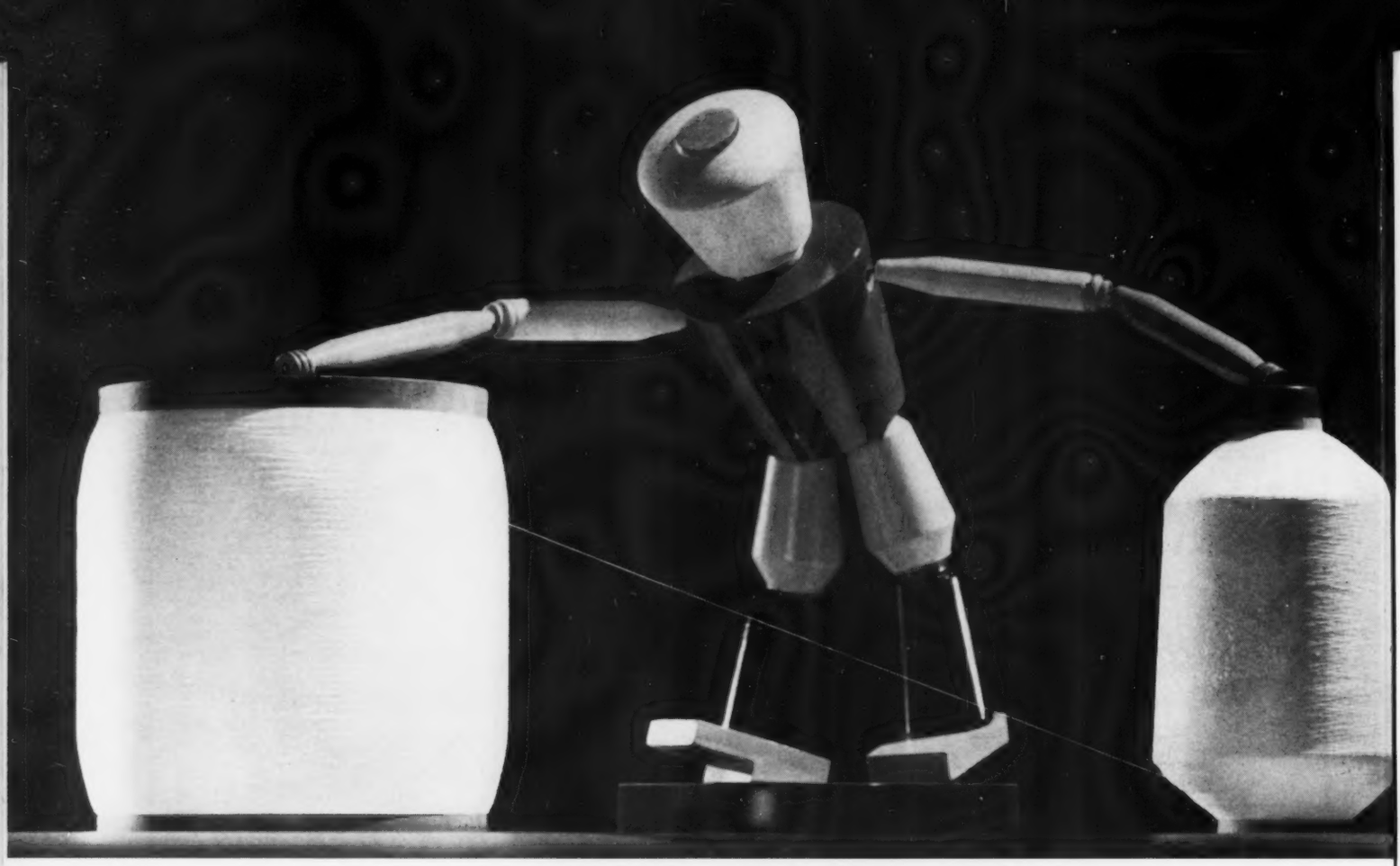
Positive yarn feed and constant yarn tension for uniform stitch . . . positive tension on cloth-winding take-up for uniform fabric quality . . . the new Whitin High Speed Warp Knitting Machine relies on mechanical action and control to maintain the high quality of its output. One setting for the quality of fabric desired holds that quality as long as desired, without further adjustment.

Naturally, high-quality anti-friction bearings play an important part in this positive and dependable action. Twenty Fafnirs in all are used on the unit: five on each of the two yarn tension shafts, four on the cloth take-up worm and worm wheel shafts, and four on the yarn beam drive.

These Fafnirs include single shield, double-shield, seal-and-shield, and the famous Fafnir "Mechani-Seal" types – each chosen for its fitness to meet a certain requirement just a little bit better than any other bearing made. For new equipment or replacement on your textile machines, "the most complete line in America" offers standard and specialized ball bearings made for every application. Write for the Textile Catalog. The Fafnir Bearing Company, New Britain, Connecticut. Atlanta . . Birmingham . . Boston . . Charlotte . . Dallas.

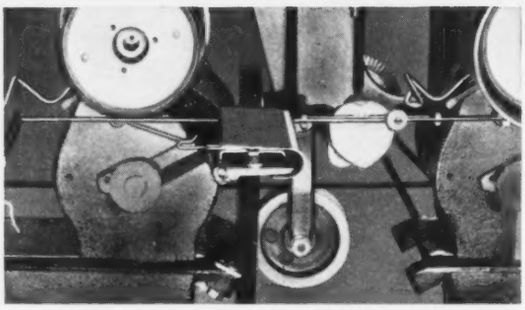
FAFNIR *Ball Bearings*

THE BALANCED LINE • MOST COMPLETE IN AMERICA

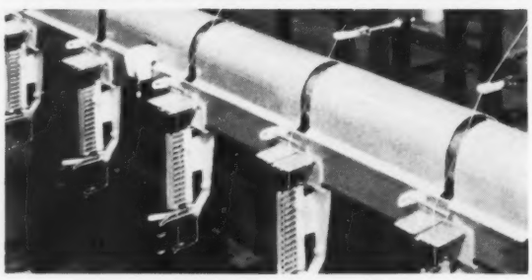


CONE *Nylon* DIRECT FROM UNIVERSAL SIZING TUBES

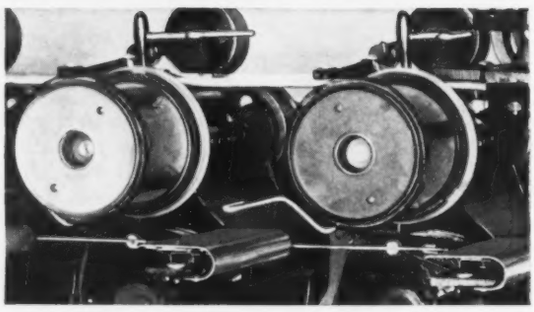
Pineapple cones of Nylon are produced with a minimum percent of rewinds when winding from Universal Sizing Tubes. The No. 250 Sizing Machine is used to produce the tubes; and the No. 50 Winder with Front-Line Emulsion is used to produce the pineapple cones for knitting.



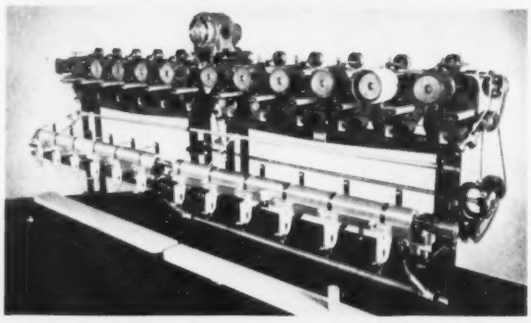
The shape of the Universal Sizing Tube is designed to permit uniform conditioning. This build is produced by alternating short and full-length strokes of the Thread Guide. The length of stroke on 12 or more spindles is controlled by the heart-shaped Cam.



The Sizing Roll is oscillated slowly to distribute wear. The Thread Guides above the Sizing Roll are designed for quick, easy cleaning. The tension is applied to the dry yarn before sizing.



A further convenience to operators is the use of an extension on the starting handle which permits the operators to load and doff quickly and without fatigue.



Universal Sizing Machine (No. 250 Winder) equipped with a special builder motion producing tubes that can go directly to the No. 50 Coner.

UNIVERSAL WINDING COMPANY
Providence, Rhode Island

See our catalog in TEXTILE YEARBOOK

THE OVERSEERS' CORNER

CRITICISM VS. COOPERATION

PETE & BILL DISCUSSION

Bill was in a bad humor, and he jerked his hat on angrily as he left the mill on his way home. Pete observed him from the doorway and speeded up slightly to catch him. A minute later the two were walking side by side down the sidewalk.

"You act like today is Monday instead of Friday," said Pete, grinning. "What did you do, get two days ahead of yourself?"

Bill looked sheepish and tried to grin. "I just had a run-in with Tom Harris about the way he's running his job. Looks like he just won't cooperate."

"Is he that fellow you were interviewing one day last spring when I was in your office—that fellow with the very cocky, chip-on-the-shoulder manner?" asked Pete, trying to draw Bill out.

"Yeah, that's him," replied Bill. "I hired him because in spite of the way he acted he seemed to know the job, and he does know it. He's just as good as any man I've got—when he wants to be."

Pete's expression was a sly one as he asked, "What did you do when you put him to work?"

"Why I showed him his job, explained things to him, and then left him," was the reply. "After he had time to get started good, I went over to see how he was doing."

"And I'll bet you found something wrong and cussed him out."

Bill was in bad humor . . . Pete observed him from the door

"That's right," said Bill. "It's always a good policy to give a stiff criticism when something is wrong. Let them know we expect good work."

"In some cases, maybe," said Bill, slowly, "but too often you run up against a man who bucks criticism, just as Tom Harris is doing. It takes a real knowledge of human nature to know which men can take criticism and which men can't. In the majority of cases, good words will bring out more cooperation than all the criticism in the world."

"You sound like a Sunday school teacher," growled Bill. "This is a mill not a kindergarten."

"Maybe so," said Bill, turning in at his gate, "but any time you want to let Tom Harris go, I'll hire him and guarantee 100% cooperation."

To what extent does criticism destroy cooperation?

Letters from Readers

Sentiment Leaves No Answer

"When the Faithful Employee Gets Too Old" Pete and Bill, September, 1941

Editor, Overseers' Corner:

The textile industry is at the end of the line of modern industries in efficient operation, and the effect of tradition in the industry is harmful. The question "What should we do with old employees no longer able to run their jobs?" is one which is very important. Here are a couple of true cases.

Bill Jones, a crackerjack loom fixer in his day, is now getting on in years and his eyes aren't what they used to be, so he's had to leave the job. We gave him a job as a scrubber in the card room. He does a poor job, and doesn't work very hard, but we're allowed a scrubber on our budget, so we gave him the job.

Then there's Tom Sullivan. He's been a spinner with us for 40 years, but now he's failing a bit and can't handle the job. We put him on oiling looms. He's not familiar with looms, and what we've done is contrary to the recommendations of lubrication engineers who claim the oiling should be done by a trained man. But Tom gave 40 years to the company, and we'd hate to turn him out on the street just because he couldn't handle his old job any more.

Neither of these men could very easily get a job elsewhere—and such long service by both seems to merit some help. But we're told that therein lies a big trouble with the textile industry, that there's too much tradition and sentiment in the business. We could get a scrubbing machine and a man to run it, and do our scrubbing cheaper and

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42nd St., New York.

better than all the Bill Joneses in the whole mill. Our looms would stand up better with a young fellow trained in lubrication by a lubrication engineer.

We rationalize keeping the men on by saying that they're an item in our budget. But on the other hand, a penny saved is a penny earned. The mill is a business organization, not a charity institution. There should be less sentiment and more business in running the mill, but we shrink from the vision of the tears that will come into white-haired Mrs. Sullivan's eyes when Tom comes home and says that the mill has let him go. So we are no nearer a solution to the problem than before.

In case of publication of this letter, the names are fictitious, although the cases are not.

A. N. W. (*New Jersey*)

Spare Hands Should Work

"Handling Spare Hands"
Pete & Bill, June, 1941

Editor, Overseers' Corner:

In reply to the question "Should Spare Hands be Allowed to Linger in Mills," I think that they should, but I also think that they should be given work to do, such as helping change from one hank roving to another, or changing travelers, or helping other hands that are behind with their work. Under no circumstances should they be allowed to loaf from one department to another, and here is why.

If they are needed quickly and it is necessary to look all over the department for them, and they are finally found in another department, it is not only a hindrance to the department in which the spare hands work but it is very annoying to the ones that they are visiting. There is nothing more aggravating than to see a spinner or doffer behind and to find him leaning against the wall talking to some one.

The people who work in textile mills have only eight hours a day to work. Those hours should be confined to work and visiting should be done during off hours.

HOMER J. CABANISS (*Alabama*)

Editor, Overseers' Corner:

Certainly, an overseer should have the ability to fix all machines in his department, but he should not make it a habit always to go around fixing. Being the leader in his department, he should show his men that he has the ability to run his job; he should be like a good school teacher, show them he knows how, but let them do their own work.

Employees must be trained to have confidence in themselves. If a baby never learns to stand alone, he will never be able to walk; and a good overseer should teach his fixers to solve their own problems by doing them, and he will be making them better men.

My idea is, if a fixer gets stuck, fix the machine for him; then put it back like it was, and watch and see whether he has learned how.

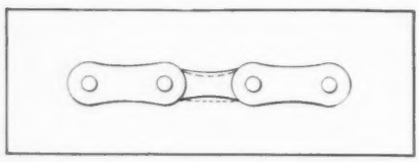
C. R. MOORE (*Georgia*)

★ ★ ★

Overseers' Practical Helps

Lost Motion in the Box Lifter Chain

After a gem-head loom has been run for a long time with only two or three of its boxes being used, it will often be found that the boxes which have not been in use will be too high when a new design of cloth calls for use of them. If, after the compound levers have been adjusted to their limits, the box is still too high, there are several common remedies. These are: replacing the box lifter chain with a new one; turning the chain; reversing the chain, end or end; and wrapping a wire around the worn link.



Striking a single link of a box lifter chain on the upper surface will straighten the under surface, as shown by dotted lines

The objection to the first three remedies named is the time it takes to do them. The objection to the fourth is the sloppy appearance it gives to the loom; also its effectiveness does not last long.

An effective remedy which is quickly and neatly done, is to hold a weight or other suitable piece of metal under the worn link, and pound the other edge of the link. The under edge is thus straightened, thereby in effect replacing the metal which has been worn off. The link referred to is that which is on a pulley when a low box is called, and off the pulley when the high boxes are called.

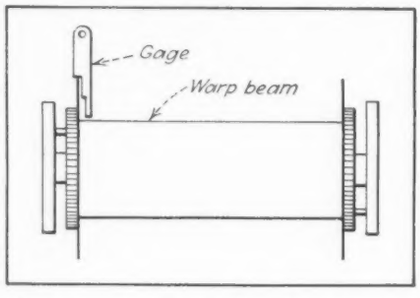
C. S. B. (*Pennsylvania*)

Warp-Beam Gage

In beaming new fabrics, it is not always possible to determine in advance just how many cuts can be put on a beam, because of the various factors which affect the density of the warp. A gage, similar to the one shown in the illustration, can be easily made in the carpenter shop, for measuring the warp at one-half full. While the length of the gage can be calculated, it can also be determined by measuring the distance remaining on a half-full beam which is ordinarily filled to capacity. If the mill uses more than one size beam, the gage may be stepped, as shown in the illustration.

A gage should be hung up near each beamer and the tender instructed to use it on all doubtful warps.

P. L. H. (*South Carolina*)



Using gage to determine warp-beam capacity

Priorities at STA Meeting

Explanation of the priorities system and a description of the textile school to be established in Gaston County, N. C., were presented to the Gaston County Division of the Southern Textile Association, at its annual meeting, Sept. 19, with the chairman, H. G. Winget, of Textiles, Inc., Gastonia, presiding. The priorities system and its relation to the textile industry was explained by Hoke V. Bullard, assistant manager of the Division of Contract Distribution of OPM, Charlotte, N. C. Mr. Bullard stated that a blanket rating of A-10, the lowest defense rating, has been established for manufacturers of repair parts and machines for the textile industry. The A-10 ratings will probably simplify things and make parts a little more plentiful, but mills on defense orders should apply for a rating of A-1-a, in order to get supplies more quickly. It has been promised in Washington that 48-hr. service will be given to all requests for priority ratings.

In describing the proposed textile school, T. P. Morris, assistant manager of manufacturing, Textiles, Inc., Gas-

tonia, N. C., stated that the purpose of the school, "absolutely is not and was not ever designed to be a training ground for unskilled workers. . . . It is a vocational school from start to finish. It is for boys and young men who have not had a chance and never will have a chance to go to college and who perhaps have not even been through high school."

G. H. Dunlap, supervisor of the research program being sponsored by the Textile Foundation, Southern Textile Association, and the Arkwrights, gave a brief explanation of the work which he is conducting.

★ ★ ★

Employees of Leward Cotton Mills, Worthville, N. C., recently held a meeting at which Edward W. Smith of Marlowe Van Loan Chemical Co., High Point, N. C., was the principal speaker. Mr. Boozer, the superintendent, presided, and short talks were made by the superintendent and the overseers. A second speaker was B. Wagener, who has a long experience in the hosiery field. Messrs. Gaffney, weaving overseer, and Trogdon, carding and spinning overseer, also spoke.

★ ★ ★

On Aug. 23, 1941, a man who had been employed only since the previous week by the King Philip Division "A" of Berkshire Fine Spinning Associates, Fall River, Mass., fell and broke his leg. This accident terminated a period running from June 21, 1939, in which that mill had accumulated a total of 4,556,136 man hours with no lost-time accident. This is believed to be a nation-wide record in the textile weaving field. This record follows immediately upon a previous one at the same plant of 3,013,328 man hours running from Oct. 28, 1937, to June 21, 1939. Henri F. Horn is superintendent of King Philip Division "A".

Preboarding Nylon Hosiery

Careful control of temperature and pressure needed to insure best results

By WILLIAM T. LEGGIS

SUITABLE METHODS for knitting Nylon full-fashioned hosiery were described in the September issue of TEXTILE WORLD. It is assumed, of course, that once the mill has developed proper construction details for Nylon hosiery, the specifications adopted will be adhered to. There are several further precautions which should be mentioned before the preboarding operation is discussed. Failure to take those precautions will prevent successful wet processing of the stockings.

First, exhaustive tests should precede the selection of a marking crayon to mark the section number on the welt of the stockings so that defective sections can be traced and fixed. The majority of marking crayons available were devised for use on silk or cotton fabrics and contain a dye or pigment fugitive to these two fibers. However, many of these tints are very fast to Nylon and will remain throughout the wet processing and show up on the finished hosiery. By subjecting hosiery which has been marked with various crayons to the complete preboarding and dyeing procedures, one can readily detect which crayons are suitable for use on Nylon. Some manufacturers of crayons have put on the market products developed especially for marking Nylon. However, knitters will find it advisable to test even these special crayons to make sure they are satisfactory under conditions of use in their own plants.

Second, cleanliness of the stitch-forming mechanisms on the knitting machine is important. If the needles, sinkers, dividers, and knocking-over bits are not cleaned regularly, the sizing deposits build up on them to such an extent that it is impossible to produce a clear stitch formation. Any distortions in the hosiery fabric are permanently set during the preboarding operation and cannot be corrected later. The method most commonly employed for cleaning the stitch-forming parts is to knit cotton yarn for a few hundred courses as frequently as necessary. Depending upon mill conditions, temperature, humidity, and method of sizing, this cleaning procedure may be necessary as often as once a day or as infrequently as once a week.

Several types of cleaning preparations are on the market which are brushed over the needles and sinkers during the knitting of the cotton. Care must be exercised in the selection of these cleaning aids to determine that the materials used do not cause the formation of black graphite marks which are set during subsequent preboarding and become practically impossible to remove. Many mills have found it most practical to examine all Nylon hose for oil spots before preboarding, and to hand spot with a suitable solvent cleaner.

Third, the final gray inspection of Nylon hosiery must be very rigid. All menders, holes, and pulls must be corrected before preboarding; otherwise these defects will be set permanently and beyond remedy.

PREBOARDING of Nylon hosiery on metal forms is carried out for the purpose of molding and permanently setting the stockings to the desired shape. It has been found that the higher the temperature of the steam, the quicker the setting can be accomplished. A satisfactory set can be secured on Nylon hose by a 15-min. treatment with steam at a temperature of 212° F.; i.e., at atmospheric pressure. At 5-lb. pressure the setting can be accomplished in from 5 to 7 min.; at 20-lb. steam pressure, in 2 to 3 min. It has been established further that the higher the preboarding temperature, the more permanent is the set of the hose, and the higher the dyeing and scouring temperature which may safely be used.

An important precaution which must be observed during Nylon preboarding is to check steam pressures with a thermometer. The following table shows the corresponding pressures and temperatures of saturated steam:

Steam Pressure	*Temperature*
Atmospheric	212° F.
5 lb.	228° F.
10 lb.	240° F.
15 lb.	250° F.
20 lb.	259° F.

If a pressure gage alone is used to check the preboarding temperature, improper set may result if the air-exhaust system of the pressure chamber is not working properly. For example, if the chamber remains full of air or partially filled with air, the pressure gage may show 20 lb. per sq. in. of pressure in the chamber, but the temperature in the chamber may actually be considerably lower than 259° F.; in fact, the temperature in the chamber may be lower than 212° F. It is essential, therefore, that all preboarding equipment be equipped with both thermometers and pressure gages to check preboarding temperature.

Selection of the proper size and shape of the preboarding form is a problem which each mill must solve for itself. The final check on the suitability of a preboarding form is an actual fit test of the hosiery on live models. There are no definite rules as to which shape is best. Many mills have adopted preboarding forms shaped exactly the same as their

final boarding forms, and have had satisfactory fit results. Some mills have adopted a preboarding form shaped the same as their final boarding form, with the exception that the width of the form at the ankle to the welt is approximately 10% less. Still other mills have actually developed preboarding forms of various widths in order to secure truly proportionate length and width of their Nylon hosiery.

After preboarding, the stockings should be dry before they are removed from the forms. If they are removed in a damp condition and crushed into a dye net, the creases and folds which result will be evident in the finished hosiery.

A method has been developed for treating Nylon hosiery which utilizes a pressure boarding as the final finishing step. In this process the gray hosiery without being placed on forms is subjected before dyeing to a steam setting in a chamber maintained at approximately 212° F. This procedure has not become universally accepted, because it requires considerably more high-pressure boarding equipment than with the normal preboarding procedure. Also, due to the low presetting temperature, lower dyeing temperatures must be employed.

Spinning Room Practice

Remedies for creel troubles, and method of cementing aprons

By WILLIAM STOCKTON

This is the second of a short series of articles on cotton mill spinning-room practice, with special emphasis on causes and prevention of yarn imperfections arising in the spinning room. The material has been compiled from various sources and has been used by Mr. Stockton in employee training courses in several southern mills

DEFECTS IN CREELS of spinning frames can cause a multitude of imperfections in yarns. Not exactly a defect, but of the same effect, is the accumulation of fly in the creel. Fly on the roving rod results in bunches which clog traverse bar trumpets or which pass through to form gouts in the yarn. Roving placed on top of a creel collects fly, especially if air is used for cleaning; also, bobbins of roving sometimes are placed on top of a frame already covered with fly. In either case, the bunches of fiber cause trouble if allowed to remain on the bobbins. Roving rod supports should never be placed where they will be touched by the roving.

When bobbins in a creel do not rotate freely, it may be due to a defective skewer or to an accumulation of waste in the step; skewers that are mushroomed at top or bottom should be discarded, and skewers that are too long for the creel should be replaced because roving on top of the frame will act as a brake.

Bobbins which rotate faster than necessary allow the roving to tangle around the foot of the skewer, usually breaking the strands; the remedy is in adjusting the roving rod brackets to the proper height. If bobbins touch each other when spaced normally in the creel, they are too large.

Frequently, a creel is said to be defective when the trouble lies elsewhere. If the frame is worn so that it vibrates, the appearance of a defective creel is given.

Stroke of traverse bar should be as long as possible without causing roving to run off the ends of the rolls. A short stroke affects the running quality of the work, resulting in more ends down and poor yarn, and the life of top rolls is shortened considerably.

On long-draft frames which use aprons, it is important that the aprons be spaced evenly between the bosses of the rolls so that full advantage can be taken of the traverse stroke. Apron-roll supporting arms must swing freely on the rod, or the effective width of aprons will be materially reduced. If the arms do not swing freely, replace the spinning clip with one that does not bind. Aprons may run out of line if middle rolls are not aligned with steel rolls; the remedy is to reset the cap bar.

Supporting arms for apron tightener rolls should be spaced so as to provide about $\frac{1}{32}$ in. end play of rolls between arms. Binding of rolls between arms causes apron slippage, uneven yarn, and excessive end breakage.

To determine whether or not an apron is slipping, examine the inside surface. If the track of the knurl is clearly defined in the leather, there is no slippage; if there is no knurl track, there may be slippage. Apron slippage can be caused by the tightener roll not turning, excessive twist in roving, or anything that retards the turning of the top rolls. When it is found that the insides of aprons have accumulated fly, it is a good sign that the whole assembly needs cleaning, including scouring of the steel rolls.

SPLICING APRONS. When an apron splice comes apart, it usually is a sign that the splice was made ignorantly or carelessly. The proper method of splicing aprons is as follows:

1. Thread apron around steel roll and apron bar, making certain that arrow points in right direction.

2. Apply a small quantity of a recommended glue, using a small flat stick, and spread the glue evenly to the skived edge at the back of the roll. Glue must not be spread beyond the splice. The first application of glue is the primer coat.

3. Place the clamp on the roll with the jaws open; place the primed edge of the apron on the clamp, aligning the front edge of the skive even with the mark on the clamp; close the jaw and tighten securely.

4. Apply a small amount of glue to the other skived edge, being careful to avoid spreading glue on the apron.

5. Place the two edges together and align them carefully; close the other jaw and tighten, taking care not to move the edges out of position.

If this procedure is followed and care is taken that no glue is spread beyond the edges, the lap will be strong, smooth, and flexible. The job can be done while the frame is running, and the clamp should be left in place for approximately 15 min.

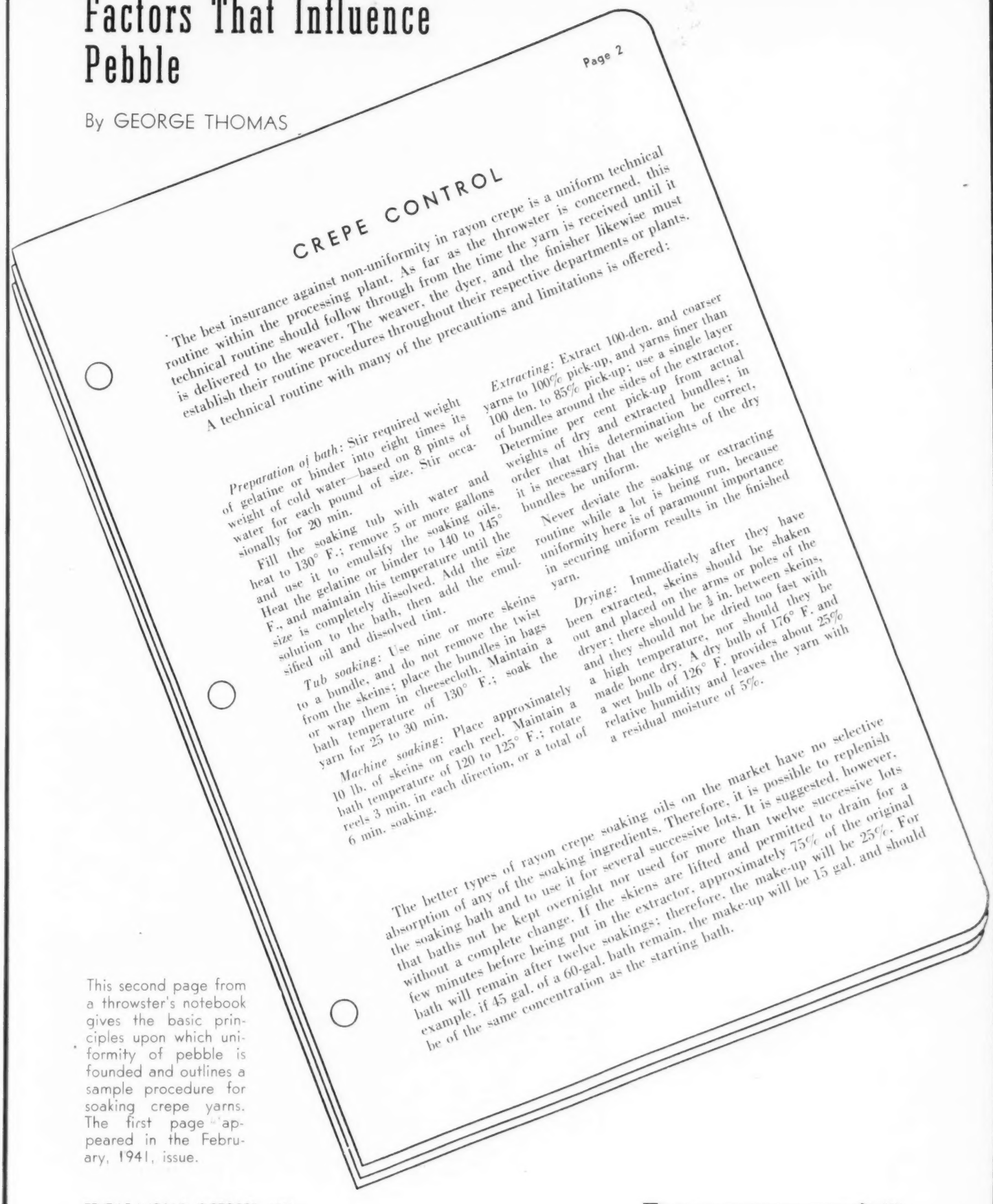
Top rolls of uniform length are essential. Long rolls bind and short rolls cause excessive wear of cap bars; both cause apron slippage and excessive ends down. Roll-covering materials must be determined by the management, but a leading manufacturer of spinning equipment recommends calfskin cots with a wool cloth cushion. A good grade of cushion cloth must be used; otherwise the cloth will wear out before the leather, leaving a loose covering.

On regular-draft frames a grooved top roll can be used as the back roll due to the negligible break draft; on long-draft frames it is unwise to use grooved rolls because the high break drafts require that rolls have a firm grip. When a frame is stopped for three days or longer, the weights should be dropped or the frame turned by hand in order to prevent flattening of top rolls.

Excessive humidity causes lapping up on top rolls. It also adds strength to roving, much as does extra twist, and therefore will decrease life of top rolls. Relative humidity of 60% at 80° F. is a satisfactory condition for spinning-room atmosphere.

Factors That Influence Pebble

By GEORGE THOMAS



Page 2

CREPE CONTROL

The best insurance against non-uniformity in rayon crepe is a uniform technical routine within the processing plant. As far as the throwster is concerned, this technical routine should follow through from the time the yarn is received until it is delivered to the weaver. The weaver, the dyer, and the finisher likewise must establish their routine procedures throughout their respective departments or plants. A technical routine with many of the precautions and limitations is offered:

Preparation of bath: Stir required weight of gelatine or binder into eight times its weight of cold water—based on 8 pints of water for each pound of size. Stir occasionally for 20 min.

Fill the soaking tub with water and heat to 130° F.; remove 5 or more gallons and use it to emulsify the soaking oils. Heat the gelatine or binder to 140 to 145° F., and maintain this temperature until the size is completely dissolved. Add the size solution to the bath, then add the emulsified oil and dissolved tint.

Tub soaking: Use nine or more skeins to a bundle, and do not remove the twist from the skeins; place the bundles in bags or wrap them in cheesecloth. Maintain a bath temperature of 130° F.; soak the yarn for 25 to 30 min.

Machine soaking: Place approximately 10 lb. of skeins on each reel. Maintain a bath temperature of 120 to 125° F.; rotate reels 3 min. in each direction, or a total of 6 min. soaking.

Extracting: Extract 100-den. and coarser yarns to 100% pick-up, and yarns finer than 100 den. to 85% pick-up; use a single layer of bundles around the sides of the extractor. Determine per cent pick-up from actual weights of dry and extracted bundles; in order that this determination be correct, it is necessary that the weights of the dry bundles be uniform.

Never deviate the soaking or extracting routine while a lot is being run, because uniformity here is of paramount importance in securing uniform results in the finished yarn.

Drying: Immediately after they have been extracted, skeins should be shaken out and placed on the arms or poles of the dryer; there should be ¾ in. between skeins, and they should not be dried too fast with a high temperature, nor should they be made bone dry. A dry bulb of 176° F. and a wet bulb of 126° F. provides about 25% relative humidity and leaves the yarn with a residual moisture of 5%.

The better types of rayon crepe soaking oils on the market have no selective absorption of any of the soaking ingredients. Therefore, it is possible to replenish the soaking bath and to use it for several successive lots. It is suggested, however, that baths not be kept overnight nor used for more than twelve successive lots without a complete change. If the skiens are lifted and permitted to drain for a few minutes before being put in the extractor, approximately 75% of the original bath will remain after twelve soakings; therefore, the make-up will be 25%. For example, if 45 gal. of a 60-gal. bath remain, the make-up will be 15 gal. and should be of the same concentration as the starting bath.

This second page from a throwster's notebook gives the basic principles upon which uniformity of pebble is founded and outlines a sample procedure for soaking crepe yarns. The first page appeared in the February, 1941, issue.

QUESTIONS & ANSWERS

Weight of Yarn Required

Technical Editor:

I shall appreciate it very much if you will give me the pounds of unsized warp yarn and the pounds of filling yarn required by the following construction:

90 in., 68x72, 1.25 yd. lb. sheeting
20s warp—6,204 body ends, 40 ends 20/2 selvage
22s filling
10% size
94.74 in., width in reed. (8827)

The picks per inch and the width in reed provide an accurate means of calculating the amount of filling:

$$\frac{94.74 \times 72}{22 \times 840} = 0.3691 \text{ lb. filling per yd. cloth}$$

1.25 yd. per lb. = 0.80 lb. per yd.

0.8000

$$\frac{0.3691}{0.4309} \text{ lb. sized warp per yd. cloth}$$

$$\frac{0.4309}{1.10} = 0.3917 \text{ lb. warp (unsized) per yd. cloth}$$

At a production of 91 yd. per loom per week (40 hr.), the following poundages are required by each loom:

$0.3691 \times 91 = 33.59$ lb. filling

$0.3917 \times 91 = 35.65$ lb. warp

Finishing Pile Fabrics

Technical Editor:

We will appreciate your giving us information regarding the best methods for dyeing and finishing rayon and cotton jacquard velours like the inclosed sample. (8809)

Cloths of this type, which are piece dyed, should be run in the dye kettles full width, with the pile on top. If they are run in rope form, marks might show in the finished fabric. It is wise not to put many pieces in the dyekettle at one time, and the cloth must run over the rollers without dragging. The pieces should be dried immediately after dyeing or they may show marks. If the fabrics have to be lustered this should be done after dyeing.

After drying, pieces should be run through a wire brushing machine to break up the pile. Rayon must be brushed lightly, but cotton will stand more brushing. Some of the machines used for this purpose having a steaming arrangement to soften up the pile and make it easier to brush. Following brushing, the pieces should be sheared. Two times run through a single-cylinder machine is plenty for these fabrics, as they require only trimming and not close shearing.

The pieces are then ready for steaming and stretching to width. They should not be stretched any more than their loom width, as this would disturb the pile. The machine which does this also calenders the back of the cloth.

The pieces can now be rolled on paper tubes for shipping. It is wise to roll the pieces with the pile as it lays lengthwise of the piece. If run on tubes against the pile, the cloth might be damaged.

Knitting Needles Break

Technical Editor:

Inclosed we are sending you a sample of material and two broken needles, one top and one bottom. The material is made with one end of 30/1 carded cotton on 14 cut, 19-in., six-end spring-needle rib machines. We should like to know the cause of the breakage of these needles, especially the bottom short needle. Both the top and bottom needles frequently break in the same way. (8816)

The top needle seems to be a normal break, but the bottom needle has been damaged as shown by the bent forward position of the head. We cannot determine what caused this bend to only one needle at a time, but such a bend would change the position of the point of the beard so that it would be caught by the presser and broken soon after such distortion. If the needle was not bent before it broke, it may be that the bottom presser is wearing sharp and marking the needles across the beard in one place deeply, instead of wearing over a larger surface on the crown where this particular needle is broken.

We have marked a section of the cloth you sent, and you will note that two needle lines show that there are two needles which are not working properly. This may be because of some injury to the points of the needles, or they may be bent forward—like the broken sample, or it may be the division is not just right to prevent the points of the needles from splitting the stitch. If it is the latter, and the presser is applied harder to overcome it, there is a pressure at which the needle points will tend to straighten out, or to break if weakened by wear. If they straighten out, they will split stitches worse and build up a lot of trouble.

This kind of trouble usually comes from a setting of pressers and cams to overcome some trouble that actually does not exist. As a rule, it results in broken beards without correcting the original trouble.

The two needle lines marked indicate trouble of this kind in this case, and an exploration of the cause of these two lines may disclose the trouble. Sometimes "reaching for" or trying to overcome such lines as these by pressing, breaks out the newer needles faster than it does the older and more worn needles, because they are not worn as small as the older ones and the pressure is therefore harder on them.

Mending Room Piece Rates

Technical Editor:

We are making a line of men's wear, all-worsted suitings. We would like to put our mending department on a piece-rate basis, and would like to have some typical rates and costs to use as a check against our own. (8824)

It is quite difficult to set any figure on this, as it all depends upon the type of work and the difficulty of the sewing. For instance, on an 18-oz. worsted serge, there has been a variation in one mill on mending costs from 8c. to 23c. per yd. In a general way, it might be said that the mending cost of men's wear, all-worsted suitings, usually runs from 7 to 14c. per yd.

It is generally preferable, for a mill which has little understanding of this, to send a number of pieces representing production to a commission mender, and obtain costs from him, for purposes of comparison.

Corrections

The fabric-construction data given in the September issue on romaines, crepes, taffetas, and shantungs, contained a slight inaccuracy. In each case, a figure was given on the "Finished count" of the fabric. This was, of course, not correct since the constructions related to gray goods. The designation should have read "Sold as".

The formula for calculating strength-weight ratios of fabrics for aeronautic use was incorrectly stated in the article "Textiles Take to the Air," in the August issue. The correct method of determining this factor is as follows: Divide the average of the warp and filling strength by the weight of the material in ounces per square yard.

LOOMFIXERS' MANUAL

COTTON SECTION—Chapter XVI—Continued

By IVAR MOBERG

Box Multipliers

THE OVERHEAD BOX MULTIPLIER recently developed by Crompton & Knowles Loom Works has only three chains, all positively driven by means of Geneva motions. Each driving unit is keyed to the driving shaft, making it impossible for any chain to get out of time. The multiplier can be applied either independently, or in combination with Crompton & Knowles head motions. When combined with a head motion, as shown in Fig. C98, it is located directly above the head motion, hence its name. No setting or adjustment is necessary, and the timing is similar to that of any other box multiplier.

The box chain can be made to move forward or backward, to move back and forth over any section, or to rock back and forth on any two bars. A tube in the second position under the lever on the reverse chain will cause it to move forward, and a roll under the same lever will make it move in reverse direction. The reverse and multiplier chains do not change direction, but always move forward, or toward the center of the loom.

Chain drafting for an overhead multiplier is relatively simple. Before starting to draft the chains, it is advisable to make out a chart of the chains which should be consulted until memorized. Such a chart, for a 4 x 1 box loom, is shown in Fig. C99. With looms of this type, there are two picks to any bar not multiplied on.

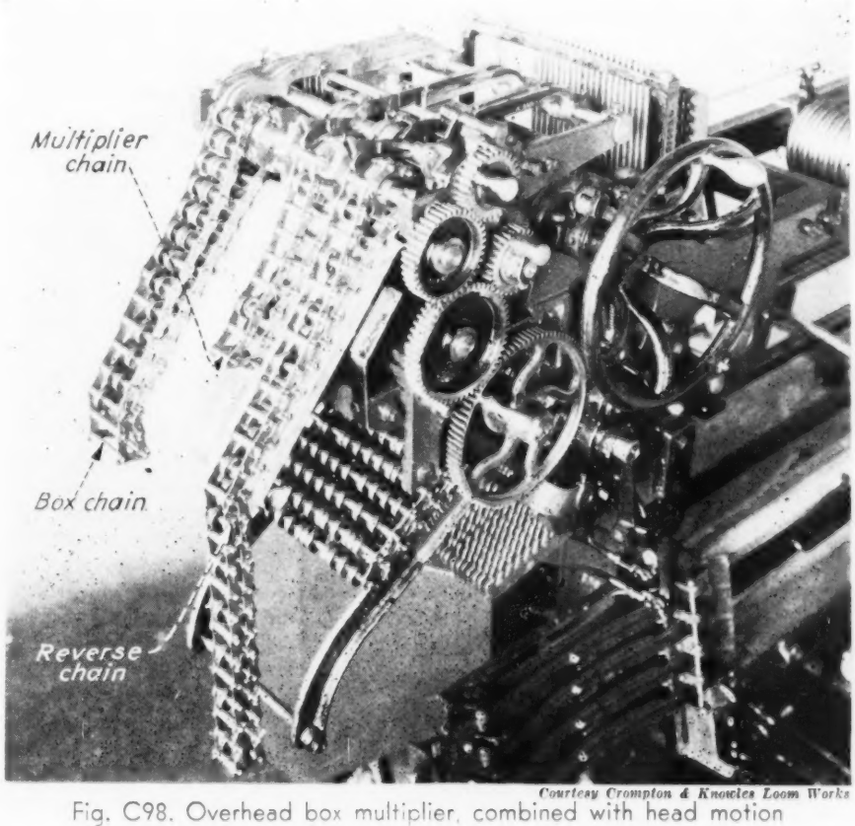
Using for illustrative purposes the filling layout presented in the July issue, one first determines the multiplying integer. This is done in the same manner as described in the discussion of the four-chain multiplier.

There are two methods by which multiplying can be accomplished. One is to use a suitable multiplying integer for each color section. While this method results in a short box chain, it requires a rather long multiplier chain. This is because the multiplier cannot repeat itself, but must move along with the weaving so that it will complete just one revolution in the entire length of the filling pattern.

The other method is to determine the most common multiplying integer in the various color sections. With this method, the multiplier chain makes a full revolution once it is called. Therefore, it makes a number of revolutions in producing the complete filling pattern. This method requires only a short multiplying chain but, on the other hand, the length of the box chain is increased.

Which method is best depends upon the nature of the filling pattern, and must therefore be determined for each case. For the filling layout in the present case we will decide on 24 as a common multiplying integer. Hence, the multiplier chain will be 12 bars long.

TWO METHODS OF DRAFTING the chains are at our disposal. One is to draft the box chain for half of the margin, one full border, the first body stripe in full, and half of the second body stripe. In weaving the blanket, this box chain first makes one-half of the margin, then the first border, then the first body stripe, then half of the second body stripe. The chain then reverses and makes the other half of the second body stripe and half of the third body stripe. It then runs back and forth over half of the rest of the body stripes until the last stripe is woven. After this, the box chain, running in reverse direction, produces the second border and half of the margin. The chain then starts forward again and repeats the



Courtesy Crompton & Knowles Loom Works

Fig. C98. Overhead box multiplier, combined with head motion

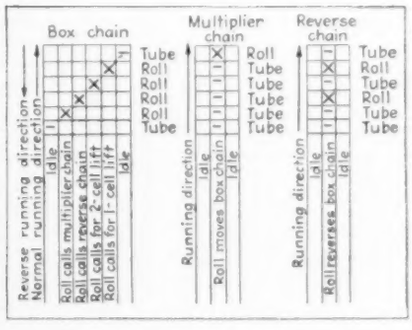


Fig. C99. Chart of chains, used in drafting for overhead multiplier on 4 x 1 box loom

cycle. This drafting is shown in Fig. C100.

Drafting of the chain begins with dividing the margin, comprising 210 picks, by the multiplying integer 24. This will indicate 8 bars with a combined multiplied value of 192 picks, and 18 picks on 9 bars as a remainder. Since the box chain is to be reversed at the middle of the margin, the 9 bars on which no multiplying is possible are placed at the start of the box chain. The reason for this is that the multiplier and reverse chains can not be called on the same bar. The 18 picks on the 9 bars are so arranged that 10 picks are taken from 5 bars going up, and 8 picks are taken from 4 bars going down.

On any color section in which the chain reverses, two picks are lost on the bar calling the reverse chain. This bar is used only once in the color section, while all other bars are used twice, once before and once after reversing the chain. Fig. C99 shows that the multiplier chain is called by a ball in the second position on the box chain. Hence, we place dashes indicating tubes in the second position on the first five bars of the box chain, and X's on the next four bars in the same position. The first bar of the box chain will call for the reverse chain to move one bar, so a solid indicating a reversing roll is placed in the third position on the box chain, as denoted by the chart. As this color section is from the first box, all other positions are filled in by dashes, indicating tubes.

It can be seen that if the box chain is running in reverse, it will produce 104 picks of margin, then change to normal direction after taking two picks on the reverse bar, and then produce 104 picks more, making 210 in all for the margin.

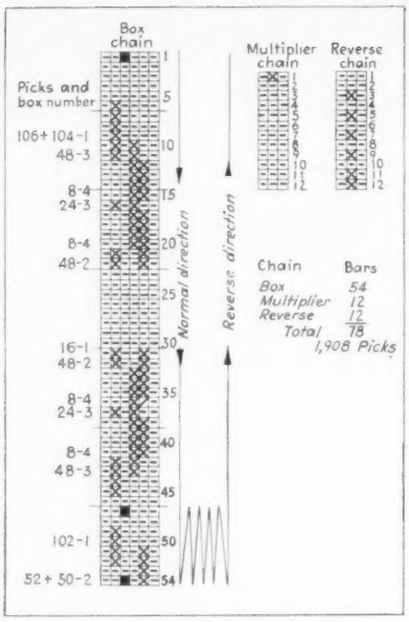


Fig. C100. Overhead box multiplier drafting by first method

As the chain now runs in normal direction there must be a dash indicating a tube on the first bar of the reverse chain, which the chart indicates.

Drafting of the chain is now continued in accordance with the filling pattern, using the multiplier wherever the color section contains as many or more picks than the multiplying integer. In the center of the first body stripe, or on bar No. 47, we place a solid in the third position, calling for the reverse chain. However, this time we do not want the body chain to reverse, so we place another dash in the second position on the second bar of the reverse chain. The body chain will now pass by this reverse bar and continue in normal direction.

The second stripe in the body is drafted for 52 picks only, but reversing the box chain on the last bar will give 50 more picks by repetition, which makes 102 picks in all. To obtain this reversal on the last, or the 54th bar, a solid is placed in the third position on the box chain and an X indicating a roll in the second position on the reverse chain. The chain now runs in the reverse direction until bar No. 47 again comes under the levers and turns the reverse chain one bar. A dash in the second position on the reverse chain then changes the direction of the box chain to normal until the 54th bar again calls the reverse chain with a roll in the second position to reverse the direction.

Alternate rolls and tubes are placed on the multiplier chain for as many bars as are required to produce the number of stripes, minus the first and last, in the body of the blanket. After the body chain has started on the last reverse, the reverse on bar No. 47 is made ineffective by placing an X in the second position on the twelfth bar of the reverse chain. The body chain will now pass by this reverse and continue in reverse direction to produce the second border and half of the margin, before its direction is again changed to normal by calling the reverse chain with a dash in the second position on the first bar of the body chain. The cycle now repeats for the second blanket.

(Additional data relative to drafting chains for use with overhead box multipliers will be published in the next installment of the Cotton Section of the Loomfixers' Manual, in an early issue of TEXTILE WORLD.—Editor*)*

RAYON AND SILK SECTION—Chapter V—Continued

By H. E. WENRICH

The Lay Motion

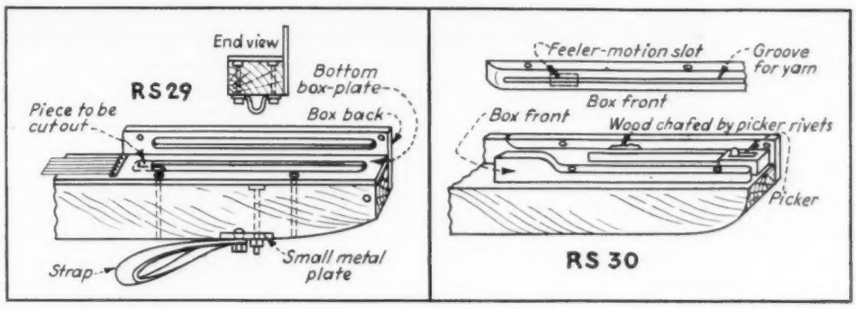
PLAIN SIDE SHUTTLE BOXES and their adjustment were topics of the discussion begun in the last installment (July, page 102). It is continued here.

Generally, leather pickers must be placed with the point up, as indicated in Fig. RS30. However, if a 2 in. piece has been cut out of the box plate, at the point marked in Fig. RS29, and a similar cut about 1 in. deep made in the lay, picker points can be placed downward in the picker stick slot. With this setup, when a picker breaks it is prevented from flying out into the shed and causing a smash. The considerable saving of this slight alteration may make it desirable to change over all the mill's looms.

Super-silk looms, as well as looms which have been changed over for larger shuttles, use pickers having points on both ends. When shuttles have worn too large a hole in one end, or the leather has become broken, an exchange can be made with a picker from the opposite side of another loom, as both these have one end still as good as new. This method avoids reversing pickers in the same box, which would expose rivet ends, and might cause pull-ins, which would result in production of imperfect cloth.

When check springs, as illustrated in Fig. RS31, break in the center, a washer can be placed between the two halves; this will give the same tensioning advantages of a new spring. Two nuts should be used, one for adjusting tension, the other as a locknut. Use plenty of grease, to prevent sticking checks. The picking stick should be centered on the check. The approximate distance of check is shown in Fig. RS31.

This check is simple in construction and just as simple to adjust, once it is understood. It is extremely sensitive to the impact of the incoming shuttle, causing the shuttle to be slowly retarded. When shuttles coming into boxes are not



Figs. RS29 and RS30. Parts concerned with adjusting plain-side shuttle boxes (repeated from last installment for readers' convenience)

properly checked, the check has either too much or too little tension and/or the binder spring is not properly tensioned. If the check is too loose, the shuttle strikes the picker with such force that it pounds the stick into the end of the lay beam, not only causing the shuttle to rebound but likewise causing the stick to split and splinter, and the leather picker to wear out more quickly. If the check is too tight, the shuttle is prevented from going into its correct position all the way in the box, and this causes the loom to bang off on the opposite side.

When a loom is causing center loops, rough cloth, slugs in the filling, or loops on the edge, it is well to examine the check and see whether it needs adjustment, before looking elsewhere for the cause of the trouble.

Other methods of checking shuttles are similar to the drop shuttle box types. A strap operating on the same principle can be used by attaching one end to the loom frame and the opposite end to the picking stick.

When picking sticks bind inside the lay-beam slot, it may be necessary to enlarge the slot. This can be done by working a wood rasp up and down inside the slot, cutting out the amount necessary for correct movement of the stick. Steel lay-bottom plates can be cut with a sharp file. The picking stick must be free to move back and forth as required, otherwise proper adjustment of other parts will be to no avail.

BACK BOX-BINDERS are used for two reasons: to check and hold the shuttle, and to create clearance between the protector-rod dagger and the knock-off plate. They can be easily and neatly repaired and adjusted if the simple suggestions outlined here are followed. When clearance is not sufficient, with the result that the dagger strikes the knock-off plate when the shuttle is all the way in the box, more clearance can be obtained by placing a piece of leather on the outside of the binder, or by adjusting the arm on the protector rod, providing the box is correctly adjusted.

There are several simple repairs which binders may need. When binder springs allow the binder to go into the box too far without materially helping in giving clearance to the protector-rod dagger, a small steel plate fastened as shown in Fig. RS32 will prevent the binder from going too deeply into the box-back slot. A screw placed as shown can be used to adjust the spring so that it fits against the arm on the protector rod.

Should the hole be set too far to the front, preventing sufficient clearance to the dagger, the hole can be plugged with a short piece of wood, and another hole the size of the binder pin bored further back. This will allow the binder to go further into the box at the back, and as the shuttle comes into the box, this extra leverage will give excellent clearance.

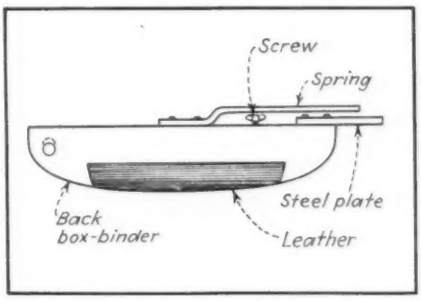


Fig. RS32. Binder adjustments

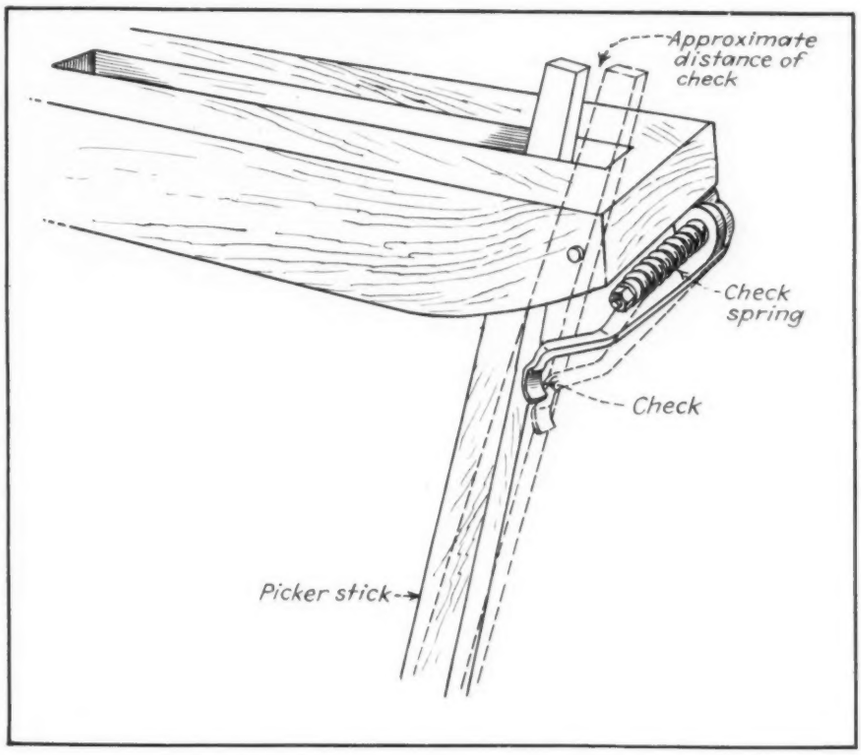


Fig. RS31. Adjustment of picker stick checks

When more surface of the front end of the binder is needed in the shuttle box, in order that the shuttle will strike the front of the binder center sooner, small pieces of leather can be placed under the binder spring where it is attached to the binder, and under the small steel plate already mentioned.

If box binders are too tight, as a result of tight springs, more pick is required to drive the shuttle, both into and out of the box. A pice of leather, preferably pigskin, placed on he face of box binder, will sofen the force of incoming shuttles, and make possible use of less pick from the opposite side, as well as less spring pressure on the binder. A good grade of glue should be used for attaching this leather. A few nails or brads can also be used. Care should be taken that they are driven down into the leather, so the heads will not cut the back of shuttles.

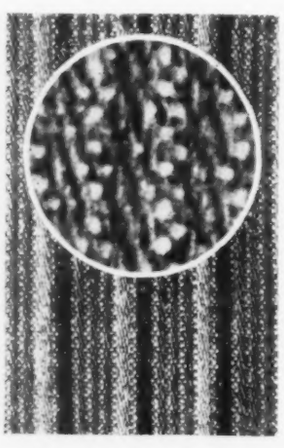
STAPLE COTTON FABRICS

By JOHN HOYE
Fabric Technician with W. Harris Thurston, New York

This sixty-fourth installment of Mr. Hoye's series—which began in the January, 1936, issue—is the final article of the series and completes the discussion of fabrics for summer sportwear. Earlier articles are now being revised and brought up to date, and the entire series will be published in book form by McGraw-Hill Book Co.

SUMMER SPORTSWEAR FABRICS are made with: (*A*,) all-cotton dyed yarns and blended-color, mock-twist, or other novelty yarns; (*B*,) yarns of cotton blended with rayon, wool, and linen; the effects include color blends, plain or fancy stripes, cords, checks, and plaids; in these fabrics the cotton is stock dyed; combed cotton generally is used for the best blends; and (*C*,) ply yarns, in which cotton yarns are plied with spun rayon, filament rayon, or wool yarns.

All-cotton sportswear fabrics made from colored yarns include gabardine, serge, herringbone twill, bedford cord, and dobby-woven designs; colored slub yarns, mock twist yarns, and flake yarns are used for decoration and for tweed and crash effects. Warp twills are made with pastel shade warp and white filling and sometimes are called "faded denims" or "sport denims"; white and colored warp stripes also are used.



Yarn-dyed striped cotton bedford cord suiting: gray construction, 38½ in., 84x52, 2.30 yd. per lb., average yarn count of 16's

Cotton blended-color cloths generally are made of white and stock-dyed combed cotton in oxford gray, brown, green, and blue blends. Some of these blended fabrics, plain or with narrow pin stripe effects, resemble summer tropical worsteds and are called "cotton tropicals."

Colored stripe and check fabrics usually are bleached to obtain white grounds; where light-color ground shades are wanted, the fabrics are given a light tint. Where dark colors are used and it is not necessary to bleach or scour, regular desizing and finishing procedure is followed. Preshrunk finishes generally are given.

Considerable yardages of such staple cotton fabrics as osnaburgs, serges, drills, twills, gabardines, sateens, and plain and slub poplins are converted. These fabrics are used chiefly for popular priced slacks, shirts, and shorts, and are for the most part piece dyed. They usually are dyed with vat colors and are mercerized. Many are given preshrunk finishes with a residual shrinkage of not more than 1%; others are given shrunk finishes with maximum shrinkage tolerances of 2 or 3% in either direction. Other finishes include a smooth suede-like finish (on warp sateens), and crease-resistant resin finishes.

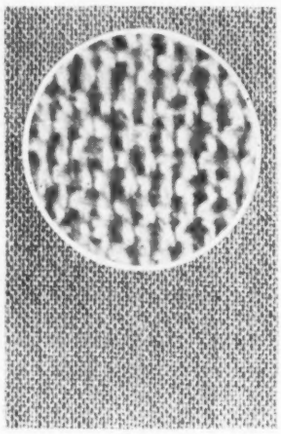
Another group of converted cotton fabrics comprises mesh- or open-texture cotton fabrics used for summer sport shirtings. Mesh- or open-weave textures are obtained by leno weaves or by "skipped dent" arrangements of the warp yarns. Fabrics used include skipped-dent broadcloths, woven-stripe broadcloths, leno, and basket-woven mesh; colored yarn overcheck or plaid effects also are used.

Examples of all-cotton woven-design suiting fabrics woven from dyed yarns and given preshrunk finishes:

38½ in., 84x52, 2.30 yd. per lb., bedford cord with yarn-dyed stripes; 38½ in., 64x52, 2.75 yd. per lb. plain woven; 38 in., 56x52, 2.35 yd. per lb., herringbone twill with white warp and dyed filling; 38 in., 76x76, 3.50 yd. per lb., seersucker; 38 in., 52x50, 2.50 yd. per lb., oxford gray blend; 38 in., 96x64, 2.85 yd. per lb., covert with mock twist warp; 38 in., 54x48, 2.20 yd. per lb., diagonal tweed, worsted-type suiting; 38 in., 52x62, 2.25 yd. per lb., mock-twist herringbone twill covert; 38 in., 52x54, 2.54 yd. per lb., mock-twist suiting, plain woven.

Examples of all-cotton dyed-yarn suitings which commonly are given firm starched finishes:

36 in., 52x44, 4.14 yd. per lb., pin stripes; 36 in., 48x38, 2.45 yd. per lb., pin checks; 36 in., 52x44, 4.37 yd. per lb., tweed with mock-twist yarns; 28 in., 36x36, 5.00 yd. per lb., striped suiting for export; 28 in., 36x32, 3.72 yd. per lb., crash suiting for export; 26 in., 38x26, 5.35 yd. per lb., striped suiting for export.



Cotton and spun rayon suiting: gray construction, 38 in., 56x40, 26/2 warp and filling composed of one end each of spun rayon and combed cotton

Examples of cotton mixture fabrics which are used in production of summer sportswear:

Tropical suiting—39 in., 76x64, 72½% stock-dyed cotton, 15% wool, 7½% silk.

Whipcord—38 in., 84x46, 82½% stock-dyed cotton, 17½% natural worsted, 24/2 warp and filling.

Serge trousering—38½ in., 42x38 90% stock-dyed cotton, 10% white rayon staple, 7's warp, 8's filling.

Ply-yarn suiting, piece dyed—38 in., 52x44,, 26/2 warp and filling, ply composed of one end combed cotton and one end spun rayon.

Tropical twill suiting—39 in., 108x56, 2.25 yd. per lb., 45% viscose staple, 20% stock-dyed acetate staple, 35% cotton, average yarn count of 10's.

Rayon stripe suiting—38 in., 32x30, 2.25 yd. per lb., 80% cotton, 20% stock-dyed acetate, average yarn count of 7's.

Homespun plaid—38 in., 26x14, 2.10 yd. per lb., 25% cotton, 75% stock-dyed spun rayon, average yarn count of 9/2.

Staple cotton fabrics used for converting into sportswear fabrics:

37 in. 84x44, 2.00 yd. per lb., 4-leaf warp twill; 37 in., 84x44, 2.35 yd. per lb., 4-leaf warp twill; 37 in., 88x42, 2.85 yd. per lb., 4-leaf warp twill; 38 in. 70x40, 2.65 yd. per lb., 4-leaf warp twill; 38 in., 108x62, 2.30 yd. per lb., 4-leaf warp twill with shadow stripes; 39 in., 96x64, 2.85 yd. per lb., 4-leaf reversible twill; 38 in., 118x60, 2.00 yd. per lb., 4-leaf reversible twill; 39 in., 96x64, 2.85 yd. per lb., herringbone jean; 30 in., 72x60, 2.50 yd. per lb., herringbone drill; 38 in., 116x64, 2.30 yd. per lb., warp sateen; 39 in., 118x60, 2.30 yd. per lb., shadow stripe warp sateen; 38 in., 112x76, 2.25 yd. per lb., herringbone gabardine; 38 in., 112x76, 1.75 yd. per lb., gabardine; 39 in., 72x64, 2.05 yd. per lb., bedford cord; 38 in., 32x28, 3.00 yd. per lb., part waste osnaburg; 38 in., 88x40, 2.50 yd. per lb., poplin; 38 in., 88x40, 2.75 yd. per lb., poplin; 38 in., 100x44, 3.00 yd. per lb., slub poplin; 38 in., 110x56, 2.50 yd. per lb., poplin; 38 in., 128x56, 4.50 yd. per lb., skipped-end broadcloth (mesh); 38 in., 90x60, 4.50 yd. per lb., basket-woven mesh; 38 in., 90x60, 4.50 yd. per lb., colored overcheck basket (mesh); 40 in., 20x20, 1.90 yd. per lb., spiral warp and filling (hopsacking); 38 in., 88x28, 8 oz. per yd., D.F. flat duck.

TEXTILE PERSONALITIES

WILLIAM COACHMAN VEREEN

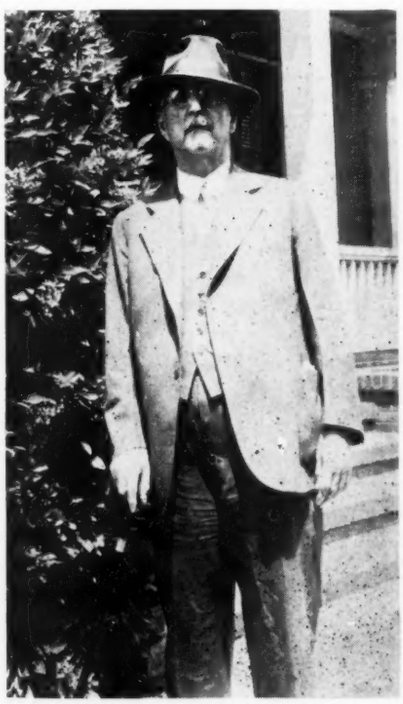
AT THE COLQUITT HOTEL in the little town of Moultrie in South Georgia, I asked the room clerk, "Do you know William C. Vereen?" He looked at me a moment to see if I were serious, then replied with a smile, "Yes, sir, everybody in Moultrie knows Mr. Vereen. He practically owns this town. In fact, I don't know anybody who doesn't know him." "What do you mean, Owns it?" I asked. "Oh, not really owns it, but just built it from the ground up."

Perhaps he was right. Later in talking to Mr. Vereen I questioned him about his various activities. "Well," he said modestly (and modesty is one of his chief characteristics), "I didn't build the town. I came down here when there were 54 people living at Moultrie—now there are about 10,000. I didn't do anything but just help the other fellows make a living and get along in the world."

Helping the other fellows included such diverse activities as conducting a naval stores business; building a tobacco warehouse for the benefit of local growers; a barrel factory; a packing plant (later sold to Swift & Co.); a hospital; the Colquitt Hotel; the Moultrie Banking Co.; and the Moultrie Cotton Mill, of which he is president, now the leading industry of the town. It also embraced unselfish service in such capacities as member of State Highway Board, State Board for Vocational Training, Board of Public Schools, Board of Trustees of Agnes Scott College, County Commissioner, Mayor, President of Chamber of Commerce.

Eighty-two years of age last August, erect, vigorous, William C. Vereen still finds his greatest satisfaction in helping other people "get along in the world." Failing eye-sight has limited his activities only slightly. Competent secretaries read his correspondence to him and note his instructions. He transacts business with decision and is always ready to back a good business venture. This progressive spirit is the secret of his splendid success, this and his ability as an executive, which prompted him to choose such able assistants as his two sons, William J. Vereen, vice-president of the cotton mill, and Eugene Vereen, executive vice-president of the bank.

He has always advocated diversification of crops, and is interested in the progress being made in this direction in his neighborhood. With real pride, he said, "There is not an idle nor deserted farm in Colquitt County."



William C. Vereen standing in front of his office at Moultrie Cotton Mills

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M. EARL HEARD

SIZE AND SINCERITY are two outstanding characteristics of M. Earl Heard. With the first you are impressed as soon as you see him. You are convinced of the second by a few minutes of conversation, as he tells of his hopes and aspirations for Philadelphia Textile School, of which he became dean last year. How did this soft-spoken, six-foot-four Texan get that way, you wonder? How come he is an outstanding textile educator, instead of the range-riding cowboy he looks more like?

Well, to begin with, he isn't a Texan; at least, not by birth. That happened some 37 years ago, in Lanett, Ala., and accounts for Mr. Heard's association with textiles. For, although Lanett is a town of only 5,000 population, it boasts two large mills of the West Point Mfg. Co. group. Young Heard got an early start. At 12 he had a Saturday morning job, helping to clean the mill. On graduation from high school, he began regular work in the mills of Lanett. This continued for ten years, more or less. There were a couple of interruptions, one for attendance at a business school in Atlanta, another for a two-year course at Georgia Tech.

That two years at Tech marked the turning point in Mr. Heard's career. For later when Professor E. W. Camp went from Georgia Tech to Texas Tech, he offered Heard a position as instructor, and an opportunity to study for a degree. Heard accepted both propositions. He took a B.S. degree in 1931, and was made an assistant professor in the same year. By 1936 he had achieved a full professorship and become head of the school's textile department. In early 1940, following the retirement of Dr. E. W. France as head of Philadelphia Textile School, Mr. Heard was chosen for that post.

Mr. Heard's main interests, he says, are (1) textiles, (2) boys, and (3) reading. There is concrete evidence to back up each of these assertions. For No. 1 there is the fact that he has made textiles a life work. For No. 2 there is conclusive proof in that he is dean of a boys' school and his three children are all boys. And No. 3 is borne out by the fact that he reads incessantly—history, biography, half a dozen different newspapers, and an armful of business magazines. His golf game, he adds, just to prove that those are his main interests, is "lousy," usually about 90 to 100.

M. E. Heard looking over the work of some of his students

CLINTON

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FOR ALL
TEXTILE PURPOSES

QUALITY
AND
SERVICE

CLINTON
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CLINTON — — IOWA

NEWS OF THE MONTH

Institute Celebrates 15th Birthday

The interdependence of industry and agriculture, problems growing out of the emergency and the progress achieved by the cotton industry in coordinating research projects by Federal and private agencies will be among the subjects for discussion at the annual meeting of the Cotton-Textile Institute at Waldorf Astoria hotel, New York, Oct. 30 and 31. Several economists have been asked to prepare addresses on the difficulties likely to confront the industry during the period after the close of hostilities.

The meetings will mark the 15th anniversary of the founding of the Institute. In observance of this, a banquet and entertainment is scheduled for Thursday evening, Oct. 30.

Wage Hour Notes

The wool industry committee recommended on Sept. 24 that the present 36¢ minimum wage rate be increased to 40¢. The vote was unanimous. Approximately 2000 of the 150,000 workers in the industry will be affected if the Wage-Hour Administrator approves the recommendation. Public hearings were set for Oct. 15 in Washington.

Hearing on the recommendation of an industry committee for a minimum wage of 40¢ in the Knitted and Men's Woven Underwear and Commercial Knitting Industry was held on Sept. 29.

Public hearing will be held in Washington on the knitted outerwear 40¢ minimum on Nov. 5.

The Wage-Hour Administrator Philip Fleming recently announced revision of the record-keeping regulations under which 350,000 employers are required to keep payroll and other records on 15,500,000 workers. A recent inspection of 48,000 employers revealed, Col. Fleming said, that about one-fourth of them were in violation of the law. The object of the revision is to simplify the job for the employers.

The Wage Advance Has Spread

The wage advance, reported in these columns last month as affecting New England wool-goods mills, some finishing

ONE FAMILY SUPPLIES 19 EMPLOYEES—The immediate family of Mr. and Mrs. O. O. Burkhalter, of Lindale, Ga., shown above, includes 19 employees of Pepperell's Lindale mill. At the present time there are 42 Burkhalters on the Pepperell Lindale payroll, all related and not counting the in-laws! Mr. and Mrs. Burkhalter moved from a farm to Lindale in 1906 and are the parents of 12 children, nine of whom are living and are Pepperell employees.

CORDUROY CULOTTE with plaid cotton shirt, corduroy shoes and cotton stockings. Part of the exhibit created by Cotton-Textile Institute, and included on the Livestock and Better Farm Living Train sponsored by Clemson Agricultural College and Atlantic Coast Line Railroad, "University on Wheels", now touring South Carolina. The wardrobe included several units which might be worn separately or together.

plants and several cotton manufacturing districts, has spread fairly generally through New England and is being reflected in the South. At least 27 plants in the Spartanburg area made a 10% increase effective Sept. 29. Important cotton mills in North Carolina also advanced wages, and a considerable number of the hosiery mills, both seamless and full-fashioned, raised wages 10%. The manufacturing groups of Fall River and New Bedford put in effect a 10% increase, and in some cases gave a bonus of one week's salary to employees with 1,700 hours of employment for the year. A large mill in Alabama gave a 10% increase effective Sept. 22.

Synthetics in Defense

Rayon yarns and fabrics are playing an increasingly important part in the national defense program, with new applications developing continuously, it was announced recently by American Viscose Corp. Originally adopted by the Army for hat cords, chevrons, and other uniform decorations, rayon is now being employed on a large scale for a number of other urgently needed defense products. A large part of the current production of high-tenacity viscose yarn is now being furnished to mills running on Army contracts. These yarns are used to make non-snagging and water-repellent twills for parachute troop uniforms, fabric and cord for tires for Army trucks, and for Army, Navy, and Marine Corps bombers and fighting planes.

The Army Quartermaster is currently using large quantities of rayon filament yarn in uniform and helmet linings, and heavy orders for lining fabrics of this type have tightened up certain grades of standard rayon yarns. Another expanding application of rayon is its use in specialized fabrics for ordnance divisions.

Fabrics made of spun rayon and wool have been exhaustively tested by the Army for use both as uniform materials and shirtings and for blankets. It is reported, however, that these materials will not be adopted for general Army use unless a definite wool shortage should develop. Already, however, American field workers for the British-American Ambulance Corps are wearing spun-rayon uniforms, and

SUPRATOL
A HARTEX PRODUCT
for WOOL

The COMPLETELY SUBSTANTIVE DYEING OIL and PROTECTIVE AGENT

THE BIRTH of Siamese twins is a rare occurrence. Rarer still is the separation by surgery of Siamese twins.

SUPRATOL, a highly sulfated oil, has that inseparable quality which makes it so highly desirable in wool processing. These are its *twin* advantages:

1. It promotes **level dyeing** of wool and assists in penetration.
2. It **protects** the fibers in dyeing, bleaching, drying and in after use.

This it does because SUPRATOL, unlike other dyeing assistants, forms a stable chemical compound with the wool fibers —a *wool*-SUPRATOL *union* which protects the fibers and keeps them soft and supple. It permits, as well, drying at higher temperatures without any deleterious effect.

SUPRATOL has facilitated the production of high quality fabrics in many outstanding mills. Let us show you how it can speed up operations and make more profits for you too. Our laboratories and technical facilities are at your service.

Write for further details.

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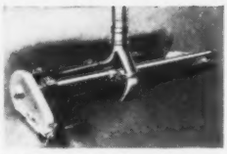
MANUFACTURING CHEMISTS
1440 BROADWAY • NEW YORK, N. Y.

554 cotton cards equipped with Abington Vacuum System.

"WE receive MANY benefits from our Vacuum Card Stripping and Waste Collecting!"

IMPROVED QUALITY

Abington card stripping is 100% by vacuum, keeping card wires in better condition than is possible where a brush runs through them frequently. Points are sharper, bends more accurate. Vacuum removes ALL dirt and short fibre. Result: better fibre separation, better dirt removal, better quality carding!



Stripping cotton card cylinder and doffer automatically by vacuum.

INCREASED PRODUCTION

Card down time is far less for vacuum stripping. On cotton, 4% is the average definite gain in production. On wool, the increase frequently is the equivalent of an added set of cards.

Stripping woolen card doffer and cylinder automatically by vacuum.

GREATER SAFETY

Vacuum stripping removes from operators the danger of hand and arm injuries, which are not uncommon in brush stripping. Vacuum stripping also eliminates the danger of damage to cylinder and doffer clothing, as when brushes are dropped or when heavy fancy rolls must be removed and replaced.

Collecting card underscreenings.

MAXIMUM CLEANLINESS

Vacuum stripping and process waste collecting "pleases all hands." It makes an easy, clean process out of "the dirtiest job in the mill." Protects operators against inhaling clouds of brushed-up dirt and fly. Takes the back-breaking tediousness out of cleaning under cards and other machinery. Whisks away process waste without trucking through the aisles. Promotes clean floors and machinery in every department, enhancing cleanliness of product. In short — "Better working conditions for both workers and work!"

Waste Station used to collect flat strips, and other process waste.

Used in some 700 mills both cotton and wool

Floor sweeping by vacuum doesn't just move, but really REMOVES, the dirt and fly!

SEND FOR FACT-FILLED "STRIPPER BULLETIN"

ABINGTON

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Card Strippers — Yarn Dyeing Systems — Weaver's Knotters

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HIGHEST FASHION SHOW ever given in New York was presented last month atop the Empire State Building. The New York skyline dramatizes that city as the new fashion capital of the free world. Above are shown a few of the models displaying garments of their own design, each of whom had been previously selected to represent her college for this showing of "Campus Originals." The display was sponsored by Ethel Traphagen, founder and director of the Traphagen School of Fashion.

these have been reported to be satisfactory under the most exacting conditions of service.

A promising new use for rayon in the defense field, according to American Viscose Corp., is in the manufacture of powder bags, formerly made of silk. Although cloths woven of standard viscose yarn have passed tests for this purpose, their use is still in the experimental stage. There is a possibility that in the near future some of the products of the rayon industry will be used for fabrics required for cartridge bags, uniform cloth, neckties, slickers, tenting material, and other military fabrics.

* * *

Experimental fabrics made from viscose type rayon which has been subjected to a treatment with synthetic resins are undergoing tests at the Naval Aircraft Factory, in Philadelphia. Development work on such fabrics for parachutes for flares, mine laying, and gun dropping is said to have made substantial progress, and efforts are now being made to adopt them for use in escape parachutes employed on troop-carrying aircraft. It is reported that rayon yarn treated with the synthetic resin loses only 28% in strength when wet, as compared with 50% for untreated rayon.

The Navy recently called for bids on 120,000 yd. of Nylon parachute cloth. This amount of fabric is sufficient for manufacture of approximately 1,700 parachutes, and is the largest single order made thus far for Nylon parachute cloth.

The Navy has developed cap bands made from acetate rayon, and is carrying out experiments with rayon fabrics as substitutes for silks used in neckerchiefs for enlisted men.

Trade-Practice Rules for Rayon Finishing Industry

Proposed trade-practice rules for the rayon and silk dyeing, printing, and finishing industry were released, on Sept. 19, by the Federal Trade Commission. Trade practices covered by these rules include misbranding, misrepresentation,

substitution of products, imitation of trade-marks, defamation of competitors, inducing breach of contract, selling below cost, discriminatory prices and rebates, repudiation of contracts, dissemination of credit information, and arbitration of disputes. A hearing on these proposed rules was held at the office of the Federal Trade Commission on Oct. 8.

Success of Delta Plan Assured

Complete success of the Delta Council's Bale Identification Program in its first year of operation was assured by developments during the latter part of September. The special copyrighted markers have been sold to ginners in the Yazoo-Mississippi Delta in numbers sufficient for the identification of more than one-half of the current cotton crop of the alluvial area, and assurance by the mills of their recognition of the marker as a guide in their buying operations was obtained.

Albert R. Russell, acting secretary-manager of the Council, upon his return from the annual convention of the Southern Combed Yarn Spinners Association, held at Charlotte, N. C., Sept. 23, reported that the 100 mills of the association unanimously agreed to give preference to Yazoo-Mississippi Delta cotton tagged with the Delta Council marker.

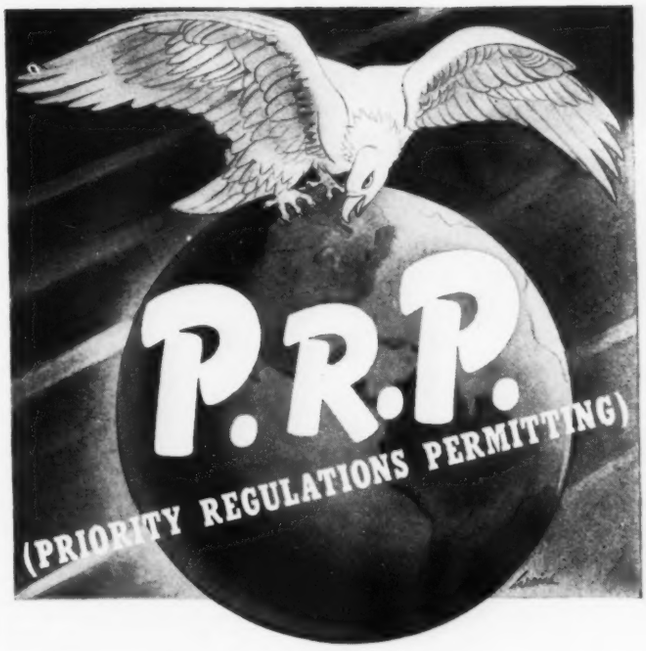
As a result of an intensive campaign on the part of the Delta Council staff during the last few weeks spent in personally contacting ginners of the Delta, more than 300,000 of the attractive red, white and blue tags bearing trade-marked steamboat design have been placed at approximately 250 gin establishments in this area engaged in ginning the famous Delta-grown staple. With placement continuing and the demand for tags steadily growing, it is estimated that approximately one-half million bales will be tagged in this the initial year of operation.

Textile Chemists Plan Annual Meeting

Plans are rapidly being completed for the annual meeting of the American Association of Textile Chemists & Colorists in Pinehurst, N. C., Oct. 31 and Nov. 1. Features include an intersectional contest, a symposium on defense problems, a second symposium on hosiery processing, and a clinic on

TEXTILE MILL SIDELIGHTS—No. 26

"There! Now wouldn't that be ducky—trimmed with that dainty No. XY-34-B?"



P.R.P. *(Priority Regulations Permitting)*

we are now making every effort to take care of the regular commercial needs of our customers in the dyeing industry.

P.R.P. *(Priority Regulations Permitting)*

we are allocating the materials available in our plant to the commercial needs of firms in the dyeing industry whose orders we accept.

P.R.P. *(Priority Regulations Permitting)*

we are conducting all necessary activities to get materials to fill the orders of firms building for the emergency.

Like all plants whose equipment and engineering ability are outstanding, we have accepted the patriotic task of delivering to our government the products it needs in the quality needed. This ties up a good part of our production machinery.

But our large plant is now expanding to twice its production capacity. We may be able to help—we *want* to help—those companies in the textile dyeing industry who need stainless steel dyeing equipment.

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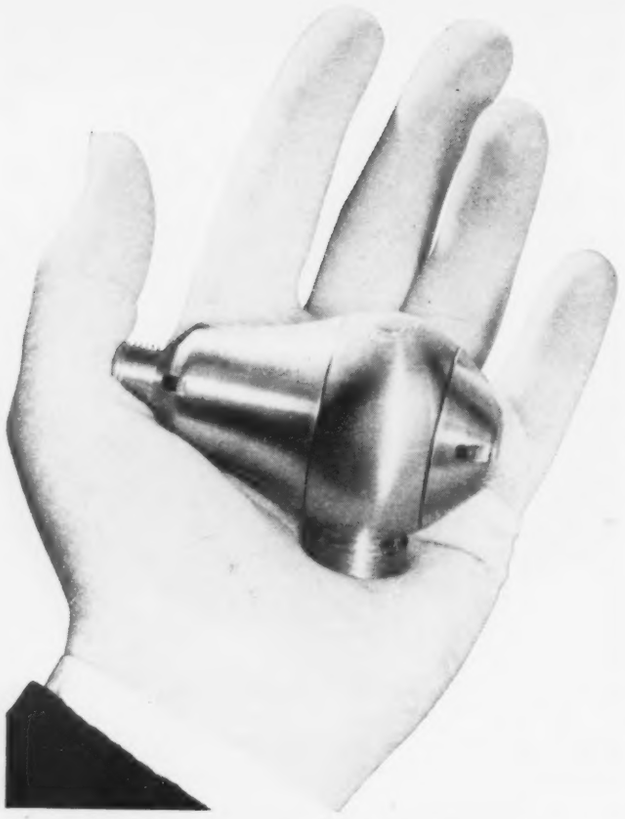
410 GREGORY AVE., WEEHAWKEN, N.J.

Manufacturers of Stainless Steel Dyeing Equipment



A Reliable Atomizer

With one simple mechanical movement of a diaphragm, air and water ports are cleaned . . . automatically.

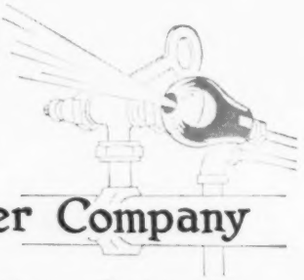
After hard and continuous mill service, orifices in the self-cleaning

Parks Turbomatic Humidifier

still remain normal in size, shape and alignment . . . and action!

Original, estimated evaporative capacity does not bog down—but may continue to be relied upon.

Interchangeable with earlier Turbo models.



Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

light fading. The annual banquet will be held on Saturday night, Nov. 1, at the Carolina Hotel.

Subjects to be discussed and speakers at the technical sessions follow: "1941 in the Dyestuff Industry," Albert E. Sampson, National Aniline & Chemical Co., Inc.; "The Chemical Manufacturer and the National Emergency," Dr. D. H. Powers, Rohm & Haas Co., Inc.; "Defense Problems From the Mill Man's Viewpoint," Winn W. Chase, associate editor, TEXTILE WORLD; "Purchase and Inspection of Textiles for the Army," Lieut. Col. Vere Painter; "Textiles from the Navy Standpoint," Lieut. R. G. Buck, Brooklyn Naval Clothing Depot; "Production of Wools of Unusual Properties Through Modification of Their Chemical Structures," Dr. Milton Harris, Textile Foundation; "Dyeing of Army Socks," S. M. Hamilton, Holeproof Hosiery Co.; "The Throwster Serves the Silk Hosiery Industry Without Silk," George Urlaub, textile consultant; "Dyeing of Nylon Hosiery," P. H. Stott, technical laboratory, E. I. du Pont de Nemours & Co.; "Manufacturing of Full-Fashioned Hosiery in Relation to the Finish," Joseph Kelly, May Hosiery Mills; "Dyeing and Finishing of Full-Fashioned Hosiery," Virgil T. Hartquist, Wayne Knitting Mills; "Fundamental Concepts in Fade-Ometer Design and Operation," E. H. Harvey, Atlas Electric Devices Co.; "The 'National' Accelerated Fading Unit," C. G. Ollinger, National Carbon Co.; and "Action of Accelerated Fade Tests on the Color of Wool Fabrics," J. J. Glenn, Sidney Blumenthal & Co.

Moderate Rayon Price Advances Made

Leading producers of rayon announced moderate price advances around the middle of last month, most of which are to be effective beginning Nov. 1. The 150-denier, 40-filament viscose yarn, which had previously been quoted at 63¢, was advanced to 65¢. The 75-denier, 45-filament viscose yarn, previously 80¢ advanced to 85¢. Acetate yarns have likewise been advanced, the 150-denier going from 54¢ to 55¢ and the 75-denier from 78¢ to 80¢. Celanese on Oct. 6 put the 150 denier at 57¢ and the 75 denier at 83¢.

It was understood in the market that the new basis had the approval of OPM, and a statement from that office is quoted to the effect that no further price advances were to be expected. The trade did not take this too seriously, as they recognize that the situation hinges directly on the cost of pulp and cotton liners, chemicals and wage rates.

To Encourage Cotton Exports

The Department of Agriculture announces a program designed to encourage exportation of cotton.

Under this plan persons who furnish satisfactory evidence of having exported cotton within a fixed period, or who have executed a bond guaranteeing the exportation of cotton, will be offered equal quantities of 1937 crop cotton owned by Commodity Credit Corp. Under this program, cotton must be exported not earlier than Sept. 18, 1941, and not later than July 31, 1942. The sale of cotton in such manner, officials of Commodity Credit said, will decrease the burdensome supply of cotton in the United States. Sales must not exceed 300,000 bales in any month or 1,500,000 bales per year.

Retailers Capitalize New Fabric Promotions

B. Altman & Co. opened a display of six model rooms last month stressing "Fabrics important enough to design your room around." The six featured fabrics are designed by Scott Wilson. The draperies were made by Fairfield Fabrics, and the tablecloths by Ellison & Spring.

Marshall Field & Co., manufacturing division, has produced the first Celanese-blend blanket. The yarn is 50%

COMBS THROUGH THE WOOL with the greatest of ease!

P-Q* set at a new high

by wool processor when he switched to

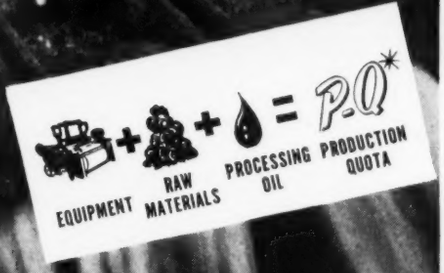
SUNOTEX OILS

Oil that thoroughly penetrates the stock and uniformly lubricates each individual fibre—that's the key to improved processing . . . to easier combing . . . toward making possible the setting of a higher Production Quota (P-Q*).

That's why one large wool processor is so enthusiastic about SUNOTEX WO-220 . . . he has proved this modern textile processing oil—

- GIVES GREATER FIBRE PENETRATION AND LUBRICATION
- EQUALED OR EXCELLED THE BEST OLIVE OIL HE COULD BUY
- HAS NO OBJECTIONABLE ODORS • IS EASIER TO HANDLE
- IS UNIFORM IN QUALITY

Little wonder SUNOTEX WO-220 made it possible to improve quality . . . increase output . . . and set a new high Production Quota! With production time at a premium, now is when you should investigate the possibilities of how SUNOTEX Oils can help you set a higher P-Q* in your plant. Call in the SUN Textile Man today—get the facts that may help you speed up production tomorrow. Write SUN OIL CO., PHILA., PA.



SUN OILS

PETROLEUM PRODUCTS FOR ALL INDUSTRIES

Exsize reduces bleaching and dyeing costs. It works quickly, thoroughly, economically. Tons of cotton fabrics can be perfectly desized for only a few dollars. Above all, it helps to produce a uniform, high quality product.

Our laboratory facitities and practical field men are available to help you with desizing problems.

PABST BREWERIES

PABST SALES COMPANY

CHICAGO, ILLINOIS

Warehouses at New York, and Textile Warehouse Co., Greenville, S. C.

TEXTILE CALENDAR

Committee D-13, ASTM, fall meeting, Hotel Pennsylvania, New York, Oct. 15 to 17, 1941.

Master Mechanics Division, S.T.A., regular meeting, Newberry, S. C., Oct. 16, 1941.

Carolina Yarn Association, annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 24 and 25, 1941.

Cotton-Textile Institute, annual meeting, New York, Oct. 30 and 31, 1941.

American Association of Textile Chemists & Colorists, annual meeting and convention, Carolina Hotel, Pinehurst, N. C., Oct. 31 and Nov. 1, 1941.

North Carolina Cotton Manufacturers Association, annual meeting, Pinehurst, N. C., Nov. 6 and 7, 1941.

New England Council, regular meeting, Hotel Statler, Boston, Mass., Nov. 13 and 14, 1941.

South Carolina Division, S.T.A., regular meeting, Clemson, S. C., Nov. 15, 1941.

Alabama Textile Operating Executive Association, fall meeting, Auburn, Ala., Nov. 29, 1941.

18th Exposition of Chemical Industries, Grand Central Palace, New York, Dec. 1 to 6, 1941.

Southern Textile Association, annual meeting, Blowing Rock, N. C., June 11 to 13, 1942.

Celanese Lanese (Celanese staple fiber), 25% wool and 25% cotton. Blankets are priced to retail at $6.95 for 72x90-in.

Bloomingdale's in conjunction with the Museum of Modern Art, offered a display of rooms featuring "Organic designs in home furnishings." The designs are winners of awards in a nationwide competition.

G-E Automatic Blankets Launched Nationally

The automatic, electrically-heated blanket, which was merchandised experimentally in Texas last winter, is being brought to the attention of the public all over the country by national advertising this month. The advertisement will carry a coupon in the form of a collect telegram to General Electric. The promotion will continue through December with copy featuring the blanket as an ideal Christmas gift. N. W. Ayer & Son, Inc., New York is the advertising agency. The features of the blanket have been described in these columns.

Financial Statistics on Textile Dyeing and Finishing

A report on "Textile Dyeing and Finishing (Except Woolen and Worsted) Corporations" in the Federal Trade Commission's project for the collection of annual financial reports from a large number of industrial corporations operating in the United States has been issued.

The combined net income (before deduction of interest on long-term borrowings and income taxes) on the average total capital of $72,100,313 employed by the nineteen corporations in 1939 was $5,137,138, and this income represented a rate of return of 7.1% on the total employed capital for the year. This average rate of return represented individual rates for the nineteen corporations ranging from a loss of 10.2% to a profit of 34.2%.

The 1939 operating ratios of the nineteen corporations show that the total cost of goods sold represented 87.8% of the total sales. Of the total cost of goods sold, raw materials represented 52.5%; production wages and salaries, 21.3%; other costs and expenses, 9.6%; depreciation and obsolescence applying to production facilities, 2.9%; and finished goods purchased for resale, 1.5%. The gross margin on sales was 12.2¢ on each dollar of sales.

By far the Greater Part of the Task lies ahead!

In the Mexican War, the War between the States, the Spanish-American War and the First World War, Butterworth Machines helped to speed the production of textile necessities.

In the present emergency, the Textile Industry is charged with the responsibility of supplying uniforms and equipment in staggering volume and of most extraordinary quality . . . Again we are proud to play our part.

Much has been done. Much is being done. But, by far the greater part of the task lies ahead.

The key to performing that task is better, faster machinery. No opportunity should be overlooked to replace every outmoded machine with a new one wherever possible. It's the one way to meet the present problem successfully—the best insurance for the future.

The mills that are doing the present job best and making the most profit from the forced demand are the mills with machines to turn out the goods fastest at the lowest cost.

And these mills will dominate the situation when defense orders cease.

Since 1820, we have developed and built machinery for the wet end of textile finishing. Today, we are doing our utmost to furnish machinery to the Industry to meet its present need. Let our experience serve you. Consult us freely as to your requirements.

H. W. BUTTERWORTH & SONS CO. Phila., Pa., Serving the Textile Industry Since 1820. Offices: Providence, R. I. and Charlotte, N. C. In Canada—W. J. Westaway Co., Hamilton, Ont.

***64%**

of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth

For That - - - - *EXTRA* - - - - Production

These busy days, when the textile industry is making an all-out effort to eliminate production delays, increased attention is focused on bobbin-cleaning departments. For plenty of clean bobbins are vital to uninterrupted loom operation.

If you need extra cleaning production NOW, Terrell's compact Cleaning and Handling System will do the job. Mills throughout the country are finding the New Type K machines, Automatic Bobbin Box Hoist and Conveyor Elevator the only solution to FASTER, BETTER, CHEAPER cleaning. Full particulars on request—write us or your nearest representative.

TERRELL CONVEYOR SYSTEM
EFFICIENT BOBBIN CLEANING

The **Terrell Machine Co.,** *Inc.*

CHARLOTTE, N. C.

James F. Notman, Needham, Mass.—N. E. States
E.W.S. Jasper, Inc., Elizabeth, N. J.—Penn.—N.Y.—N.J.
Geo. Thomas & Co., Manchester, Eng.—European Agt.

This and That

Progress on rayon warp sizing research sponsored by the United States Institute for Textile Research was reported to subscribers to the project when they met recently at North Carolina State College. Progress reports were made by Prof. William E. Shinn, research consultant in charge of the project; Paul T. Biggers, research associate; and Prof. Arthur C. Hayes.

United Airlines is adopting tires made with rayon cords for the main wheels of the company's day and sleeper planes.

Properties of Saran, a fiber derived from vinylidene chloride, were described by W. C. Goggin and R. D. Lowry of Dow Chemical Co., at a meeting of the American Chemical Society, held in Atlantic City.

Finishing activity for the first 32 weeks of 1941 was approximately 30% greater than for the same period in 1940, according to the National Association of Finishers of Textile Fabrics. Finishers are feeling the growing scarcity of certain dyes, particularly those being employed for defense work.

Bleaching, dyeing, and finishing problems were considered in a round-table discussion at a recent meeting of the Southeastern Section, A.A.T.C.C., at Macon, Ga. Perrin Collier, vice-president Callaway Mills, chairman of the section, presided. Robert J. McCamy, of Pepperell Mfg. Co., led the discussion on dyeing; John Harrison, of Muscogee Mfg. Co., that on bleaching; and L. L. Bamberger, of Lanett Bleachery & Dye Works, that on finishing.

Haskel Bros., of New Orleans, have announced that the 1942 suggested retail price of Lorraine seersucker suits is $13.75, a $2 increase over the price prevailing in 1941.

Valley Vocational High School, Fairfax, Ala., last month opened its advance textile classes which are offered free to the citizens of the Chattahoochee Valley. Classes are conducted by Eugene C. Boykin, Jr., vocational instructor at Lanett, Ala., for the last three years.

Carpet mills have lately become bidders for Government textiles, two such mills recently making tenders for cotton ducks, and one mill bidding on wool blankets.

Hart, Schaffner & Marx report that less than 1% of the fabrics which they ordered from England during the last year have been lost.

First meeting of the 1941-1942 season of Textile Designers, Analysts & Technicians Association was held in Warwick, R. I., Sept. 13. The meeting was a Ladies' Night and featured dinner, impromptu entertainment, colored movies, and dancing. The next business meeting will be held in Fall River, Mass., Nov. 8.

October meeting of American Association of Textile Technologists was held in New York on Oct. 1. The speaker was A. F. Hinrichs, Acting Commissioner of Labor Statistics, U. S. Department of Labor, Washington, D. C., whose topic was "Trends in Family Consumption of Textiles."

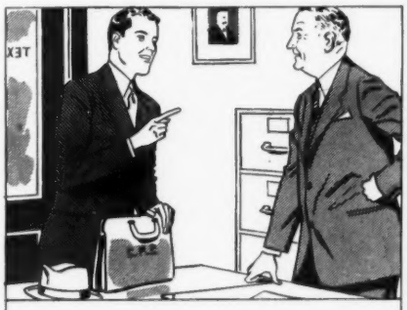
The carpet industry has set its next official opening for Jan. 5, 1942.

Saks Fifth Ave., New York, has introduced a combination of bare-foot sandals with short suede socks, a two-in-one combination either item of which may be worn separately or worn together.

Arthur Besse, president, National Association of Wool Manufacturers, was the scheduled speaker for the meeting of the New York Club of Philadelphia Textile School on Oct. 9. Prof. Elmer C. Bertolet, of the school's faculty, was a guest at the meeting, and spoke briefly on the work of the

$12,000 CAME WALKING IN THE DOOR

AN ACTUAL EXPERIENCE OF ONE PLANT THAT CALLED IN A C.P.P. TECHNICAL MAN



"A Colgate-Palmolive-Peet man visited our plant and made a careful survey of our rayon processing formula. He said he thought it possible to reduce processing costs.

"On his advice, we ordered 25 barrels of his product for a trial run. We felt this quantity would provide a fair test of his suggestions in processing our rayon fabrics.

"We processed some 750,000 yards of goods with the new C.P.P. formula—and found soap costs were down 30% to 35%. This is an actual yearly saving of about $12,000.00."

C. P. P.'S FREE CONSULTING SERVICE MAY BE ABLE TO SAVE YOU MONEY! ASK YOUR C. P. P. MAN TODAY!

This is an actual case history. It is just another example of how quality soaps plus proper application can reduce costs.

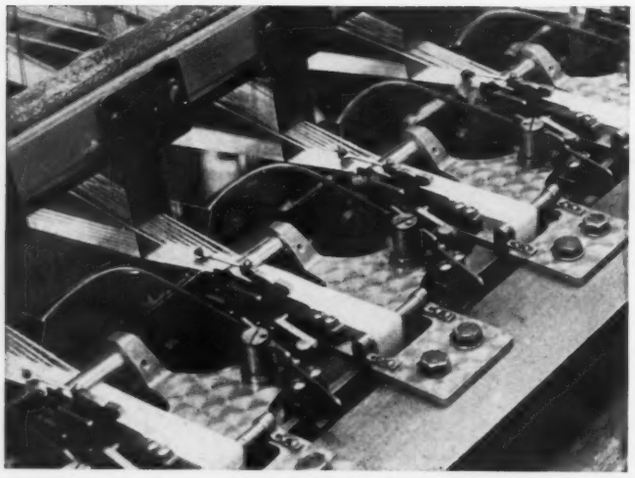
No matter what your processing requirements may be, in the complete line of C. P. P. products you'll find washing and wetting agents to exactly fit your own special needs.

C.P.P. processing agents in most cases cost less to use than many so-called "special" products because of the volume in which they are produced. Ask your C.P.P. man for full information. Or write direct to us—no obligation, of course.

COLGATE-PALMOLIVE-PEET CO.

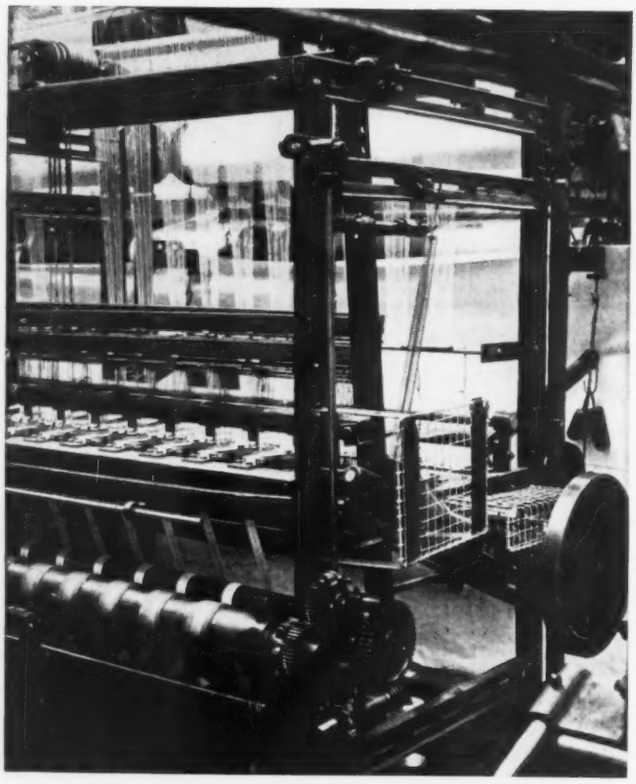
INDUSTRIAL DEPT., JERSEY CITY, N.J.

CLUTSOM HIGH SPEED SHUTTLELESS LOOMS . . .



PROVED IN PEACE AND WAR

The most important manufacturers of Webbing, elastic and non-elastic, for the British Armed Forces use the Clutsom Loom. Before and since England went to war millions of yards of webbing have been produced on these machines for the use of the Services. If you have, or are interested in obtaining, Defense contracts we suggest you let us explain to you the many advantages of this loom and give you a demonstration. But whatever you make in narrow fabrics the Clutsom loom will be of interest and value to you.



CLUTSOM MACHINES, INC.

250 WEST 54TH STREET NEW YORK

Telephone: Circle 6-8617

school. Committees appointed, and their chairmen, are as follows: Aims and Purposes, J. Elmer Hahn, vice-president, Lebanon Woolen Mills; Finance, Harold C. Bell, Bell & Co.; Membership, Thomas G. Pennington, A. M. Tenney Associates, Inc.; Arrangements, Milton Schmidt; Nominations, Max Schuster, L. Bamberger & Co.; Public Relations, Jack Jarmak, Cluett, Peabody & Co.

An all-American knitting drive, was launched at spectacular Knit-for-Defense Tea held in Waldorf Astoria ballroom, Sept. 30, by the Citizens Committee for the Army and Navy, with Mrs. Franklin D. Roosevelt as guest of honor. Notables in society and the Army and the Navy were present.

Textile Regulations Confuse Markets

Cotton goods markets proceeded with moderate activity through September, the trade watching fluctuations of raw cotton more closely than before because of the flexible provision on price ceilings. Cotton yarn trading was restricted through most of the month because the expected price ceilings were not forthcoming. Finishing costs advanced over a broad front, and consequently finished goods were also tending higher. Raw cotton was subject to considerable swings during the month, and was quoted Oct. 6 at 17.86¢ for New York spots.

Wool goods sellers found that clothiers had increasing complaints from retailer regarding late deliveries as September progressed, but as there is no let-up in Government requirements it seems unlikely that the civilian position on wool products is likely to improve. Wool goods mills are preparing for fall, 1942, season without appreciably reducing the scope of their offerings. It is understood that the opening will likely be undertaken somewhat earlier than fall openings in recent years. The clothing trade expects an increase in summer suit business next year of 13.7% in unit sales over 1941, according to a survey made by *Men's Wear Magazine*.

Rayon yarns were advanced in mid-September by 1 to 6¢ per pound, the advance to be effective beginning Nov. 1. It seems likely that most users during coming months will not receive all the yarns which they desire, and weavers are reluctant to accept business beyond the supplies actually in sight. Some hope was expressed that gray goods ceilings be raised because of higher rayon prices and rising labor costs. This makes most mill men reluctant to sell forward deliveries.

Hosiery mills are making progress in their new silk offerings featuring mercerized yarn welts. Nylons are also appearing with mercerized welts. Several mills are still offering all-silk numbers. Buyers on the whole are somewhat disconcerted by the large variety of types from which to choose. The market is slow and retail distribution, after the spurt in August, has settled down to seasonal dullness.

Underwear manufacturers are making pro rata distribution of available garments among customers where the materials are inadequate to go around. Some mills are averse to going too far forward because of uncertainty in the pending price ceilings on carded yarns. Buyers, however, have been absorbing whatever was offered.

Outerwear sellers report active trading in women's sweaters with increasing interest in pullover types. Manufacturers are carrying over from their fall lines such garments as they consider suitable into the spring 1942 season. Retailers show interest in men's and boys' sweaters for the holiday trade, favoring Argyle patterns. The vogue for home knitting, which appears to be on the rise, is being reflected in simulated hand-knit goods on the primary market.

Among other things, it Prevents Color Bleeding when Scouring

For scouring yarn dyed or stock dyed fabrics, SCOUROLAN may be used in place of soap, in a cold bath, if necessary, to prevent bleeding.

Used with soap on fabrics that are to be piece dyed, it removes dirt, oil, and grease that soap alone would fail to lift, leaving the goods clean and lustrous for the dye house. Thus one cause of cloudy or streaky dyeing, smelly goods and gummy handle is removed.

FULLITIN — A Worthy Companion of Scourolan

Used to replace soap entirely in fulling, FULLITIN eliminates the lengthy soap boiling operation. Used in combination with soap, it prevents the latter from congealing and its mild, mellow action eliminates creases, stuck places and whiplashes. It may be used in a cold solution if desired, thus preventing many of the troubles which hot soap causes.

Write for circular, "How BISCHOFF Aids the Textile Finisher".

It's the Finish that Counts

SCOUROLAN

FOR PERFECT SCOURING

ERNST BISCHOFF COMPANY . INC .
Founded 1908
Ivoryton . Connecticut

BEATS THE DUTCH!

AROOSTOOCRAT POTATO STARCH

EQUALS THE FINEST IMPORTED

Remember that fine quality starch you *used* to get from Europe? Today you can get its EQUAL—many say its SUPERIOR in AROOSTOOCRAT, the potato starch made by European methods. AROOSTOOCRAT sets a new standard in Starch Quality and Uniformity. It costs no more than ordinary starches —and quickly proves its GREAT economy over cheap starches. A 99% waste-free laboratory-controlled processing means substantial economy in production —and we pass that economy on to you. Investigate this Quality starch. Find out now about AROOSTOOCRAT . . .

Write for Booklet telling why

"IT BEATS THE DUTCH"

You'll be interested in the modern processing of this finer starch—this book tells you all about it. Just send your name and address for your copy today.

AROOSTOOK POTATO PRODUCTS INC.

HOULTON, MAINE

Sales Agents Morningstar Nicol Incorporated

630 W. 51ST. ST. . . . . NEW YORK CITY

QM Meets with Business Press

Atlanta conference typical of many held throughout the country

SO THAT manufacturers and contractors might have a better understanding of Government purchasing and inspection of contract-bought goods, a conference between officers in charge of procurement and inspection of goods at the Atlanta Quartermaster Depot and representatives of business papers in the Southeast was held Sept. 15, at the Atlanta Quartermaster Depot. This was typical of similar meetings held in other centers.

One of the main difficulties that the Quartermaster has found in purchasing goods is to find the person who makes the goods or will contract for them. Evidently manufacturers, small ones in particular, and other potential bidders for Government contracts do not follow the publication of bids closely enough, and the Quartermaster Corps, through its conference with the representatives of the trade journals, is making an attempt to contact the small manufacturer and contractor.

Col. T. L. Holland, commandant of the depot, presided at the conference and gave representatives of the business papers an insight as to the actual purpose of the depot and

THIS IS THE WAY THE ARMY DOES IT—Col. T. L. Holland, commanding officer of the Atlanta Quartermaster Depot, is shown explaining Army methods of procurement to representatives of the business press of the Southeast. Left to right: (seated), R. W. Baxter, *Refrigeration*; R. C. Maultsby, McGraw-Hill Publishing Co.; Earle Mauldin, TEXTILE WORLD; Colonel Holland; Roy L. Kerr, *Dixie Contractor*; W. C. Woodall, *Industrial Index*; (standing), John M. Goodwin, *Southern Hardware*, Carl W. Evans, *Electrical South*.

the duties performed by various officers who later discussed various phases of Quartermaster activity.

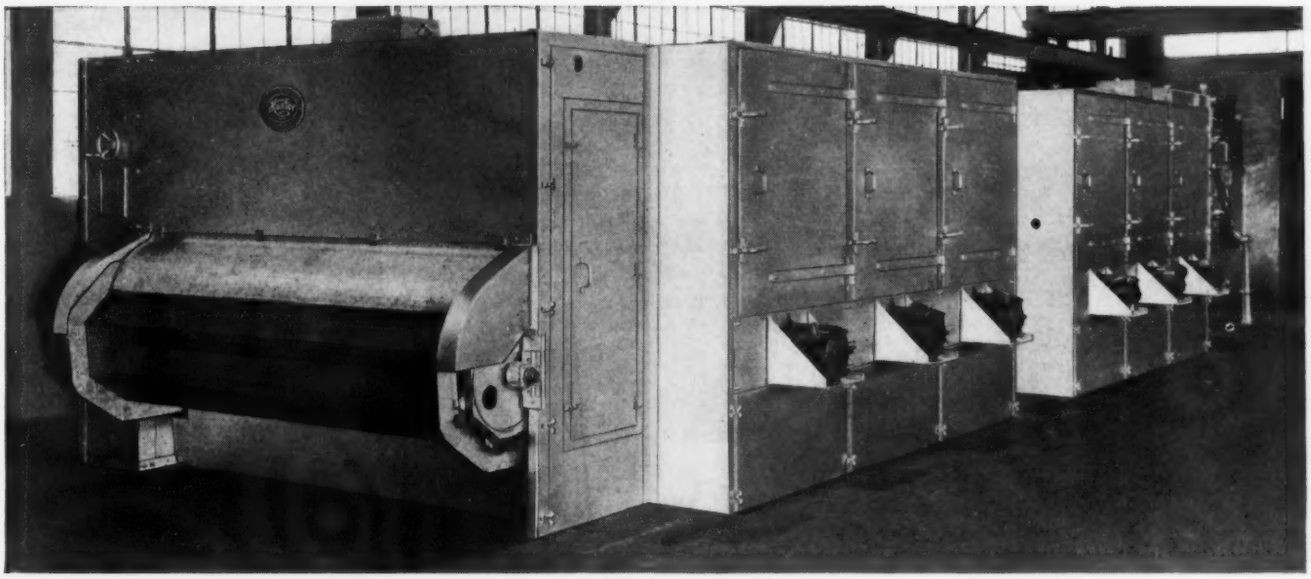
Lt. Col. D. H. Rubenstein, in charge of procurement at the depot, discussed the general scope of procurement and the difficulties that were encountered by both the Government and manufacturers in the purchasing of goods on contracts and bids.

Major Arthur A. Jackson, Major Warren G. Davis, and Lieutenant John R. Strother followed Lt. Col. Rubenstein in the discussion and gave brief talks on subsistence, motor parts, and inspection of goods.

After the morning session, representatives of the business press were taken on a tour of the warehouse and its facilities for inspection, storage and shipping.

At noon the visitors were taken to nearby Ft. McPherson, where a typical enlisted-man's lunch was served. The representatives ate in the mess hall with the soldiers, and got their food after standing in the mess line. The group was transported to the luncheon and back in reconnaissance cars, giving a further insight into the life of a soldier.

After lunch the discussion was continued with a talk by Lieutenant Clyde Christensen on construction materials. Major John F. Winburn discussed procurement planning and how the army plans for future needs.



THIS IS THE RAW STOCK DRYER FOR MORE UNIFORM DRYING AT HIGH RATES OF PRODUCTION

Illustrated on this page is the new Hunter Duplex Raw Stock Dryer.

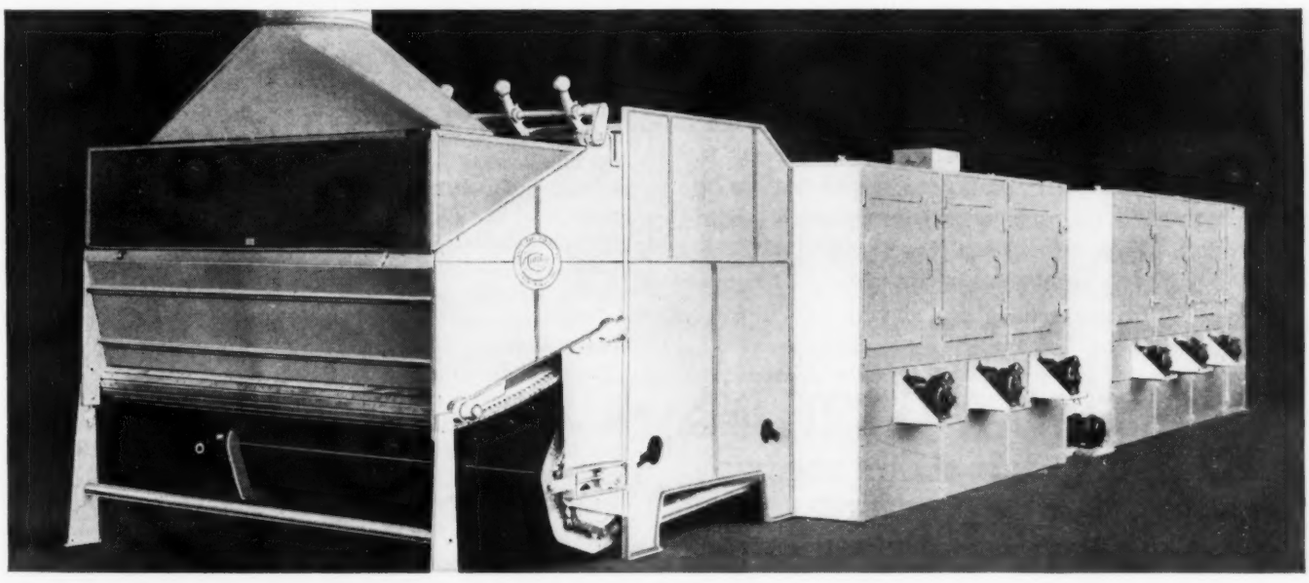
Installed and running in plants handling such diversified raw materials as jute, cotton linters and staple, rags, hair, scoured and dyed wools, it is setting new productive highs with a new uniformity of drying. For example:

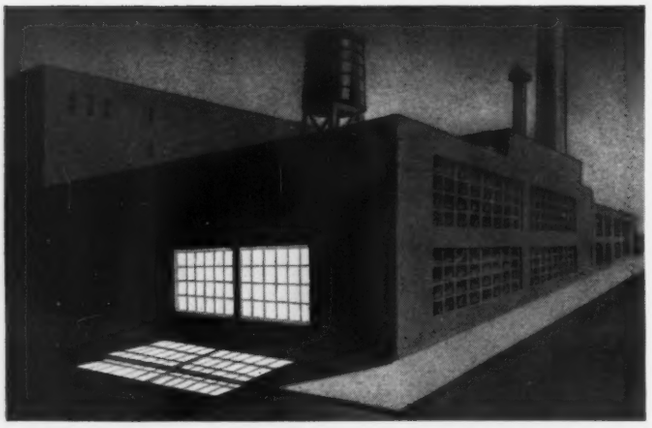
As stock passes along the apron, it is turned over at a predetermined point by uniquely controlled airstreams, thus giving a uniformity of drying unavailable in other known units. In addition, each fan is direct connected to its own motor; there are no belts or pulleys. Extended surface heaters are used throughout, and all heaters are screened against flying lint. It is equipped with special steel plate apron, traveling wool guards and baffles that accurately direct airstreams. There is a size for every application. For complete details and installation data, write to

JAMES HUNTER MACHINE COMPANY

FOUNDED 1847 • NORTH ADAMS, MASSACHUSETTS

Western Representative: **E. G. PAULES, 343 Bendix Bldg., Los Angeles, Calif.**





There's Dirty Work at the Dye House!

Dirty work that was caused by a water supply containing just a fraction too much iron and calcium for consistently good results. Colors were dull, matching was difficult, and redyes were cutting heavily into production schedules and profits. . . . Those are conditions that the majority of America's important mills and finishers have remedied with a—

HUNGERFORD & TERRY, INC.
WATER PURIFICATION SYSTEM

At a cost of usually only a couple of cents per thousand gallons of water these highly efficient systems assure you of a constant supply of pure, 100% soft, iron-free water. . . . The kind of water that means better fabrics, whiter whites, brighter colors and the minimum of waste due to water impurities. An H. & T. System is a money maker from the start. . . . For an impartial survey to determine whether or not your water supply is detrimental to the quality of your products, write us today. There will be no fee, no obligation.

• • •

HUNGERFORD & TERRY, INC.
WATER PURIFICATION PLANTS DESIGNED
INSTALLED *and* GUARANTEED
CLAYTON, NEW JERSEY

"It's Up to Government"

C. T. Murchison says sane action on priorities and learners is essential

FURTHER EXPANSION of the current record breaking output of cotton textiles is dependent on the granting of priorities for much needed additional equipment, the relaxation of rulings governing the employment of learners, and more effective cooperation on the part of Government agencies charged with the task of obtaining equipment and supplies for defense purposes, Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, told the Young Men's Board of Trade at its meeting Sept. 30.

Defense requirements with their emphasis on heavy products such as ducks, osnaburgs, drills and twills and coarse yarns have so altered the character of cotton goods output that many mills now find themselves without enough preparatory equipment to feed their spindles and looms. Dr. Murchison stated that recent estimates show that 1,000 new carding machines, with complementary equipment such as motors and drawing-in frames, are required to correct this unbalanced condition and place the industry in a position where it can satisfactorily carry the burdens placed upon it by the rearmament program.

The building of all this necessary textile machinery, he said, would require a relaxation of the mandatory all- over priority on the distribution of steel. He added that some mills have managed to balance output by running their carding machinery 144 hours a week but that many are unable to follow suit because of the lack of skilled help.

The inability of the industry to obtain from Government agencies some estimates as to defense requirements over a substantial period of time is proving a real handicap to mills striving to adjust production schedules to satisfy these demands, he added.

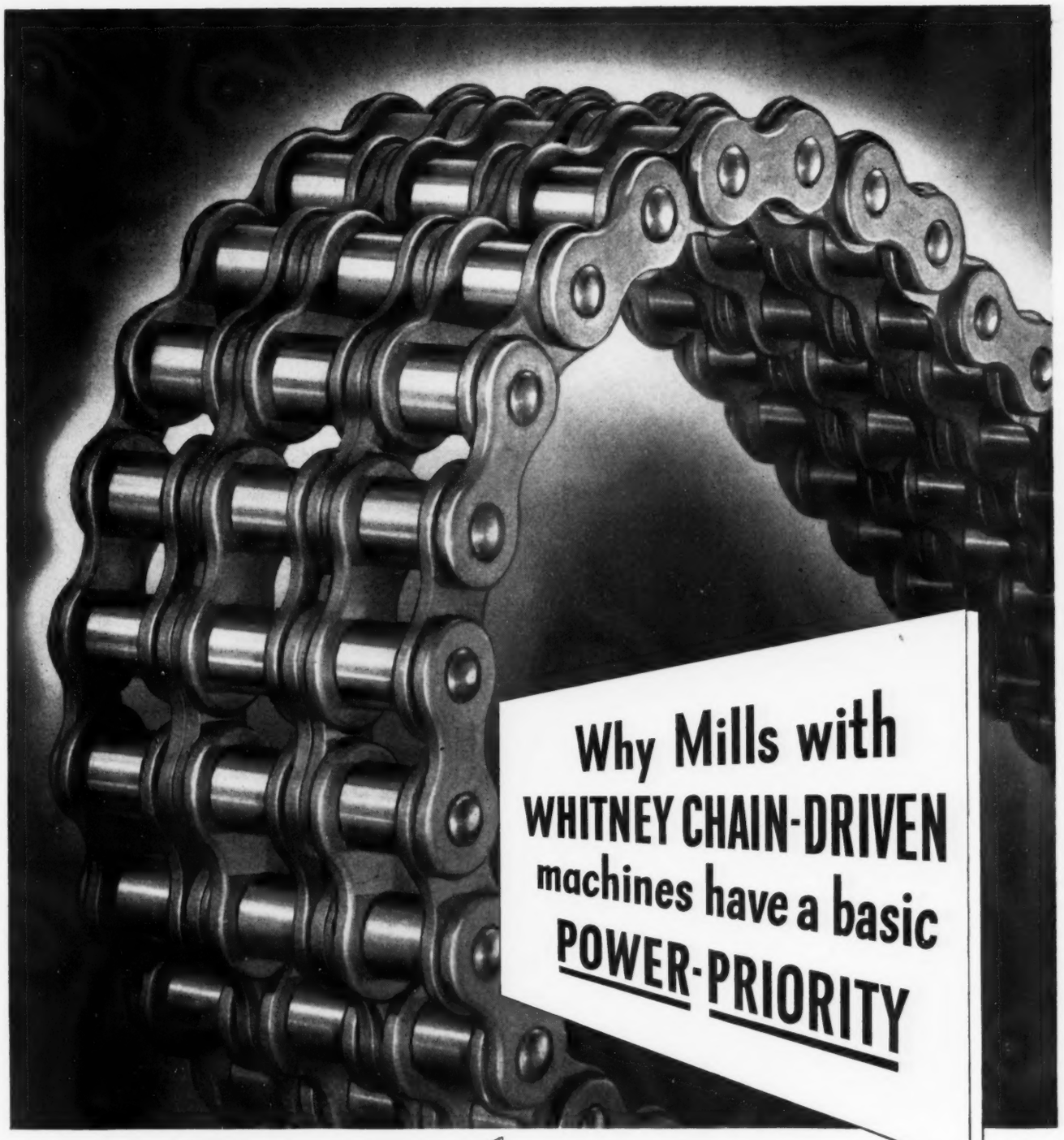
Dr. Murchison also said that all efforts to obtain from Army, Navy and Treasury Procurement officials any estimates as to what will be required of the industry over the next few months have failed to yield results and that mills for the most part have no idea as to what is expected of them. In many instances, he said, the quantities sought by various Government agencies are not made known until the invitations to bid are publicly announced.

"It is not right," he said, "to expect mills producing a type of fabric that is profitable to give it up and readjust production at great expense, forget their customers and embark on the quest for Government business when there is no way of knowing just how long the demand for the particular fabric they are expected to make for defense purposes will last or how much of the cloth the Government intends to buy. Right now, for instance, we do not know whether the Army Engineering Corps needs ten million or one hundred million cotton sandbags."

Dr. Murchison also scored the Department of Justice for prohibiting any form of voluntary or concerted action on the part of industry to meet the needs of the emergency. In many cases, he said, such action may be needful but, nevertheless, industry is not permitted to take it.

"The Government," he added, "is consistently pleading with industry to cooperate with it and then proceeds to put all sorts of impediments in its way."

Taking up current conditions in cotton cloth markets, Dr. Murchison said that the so-called scarcity of cotton goods was more apparent than real. The present situation, he said, was created by the desire of buyers to operate further into the future than is generally customary with the result that mills find that they have sold up their production for 13 to 14 weeks ahead.



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Priorities: The Answers

(Continued from page 68)

tion, and it is difficult to differentiate between equipment and supplies needed in the manufacture of civilian requirements, and direct defense requirements. Numerous industries have been certified as being 80% in defense, yet they carry only an A-10 rating, and the theory is that if any rating is issued the textile industry, it should be lower than A-10.

What a priority system really does is give the urgent requisitions first call on scarce stuff, and then let civilians have the rest. When and if materials and goods are so scarce that there is *none* for civilians, there will be no need of priorities, in the ordinary sense. The Government would simply allocate the whole batch. If too many preference ratings are passed around, you will have something like three boys with first, second and third choice of two marbles.

TO CONTINUE on textile Preference Rating Certificates, if Quartermaster or Navy wants stuff for task forces, or something special for defense outposts, it may be able to attach a rating considerably higher than A-1-I to the invitation.

It's interesting to know that the Textile Division of OPM and the Quartermaster have worked out a cooperative scheme for their mutual advantage. Military power over civilians is not favored in this country, so the job of depriving civilians of goods so that the Army and Navy can have it, is placed in the hands of civilians. But OPM needs technical advice, and help with detail, so there is a priorities division in the Quartermaster's office. This QM priority office issues preference ratings on routine things. QM uses Form PD-3. OPM issues all special ratings and uses form PD-2. PD-1 is a form application for a preference rating. OPM has final authority over all priorities as said before.

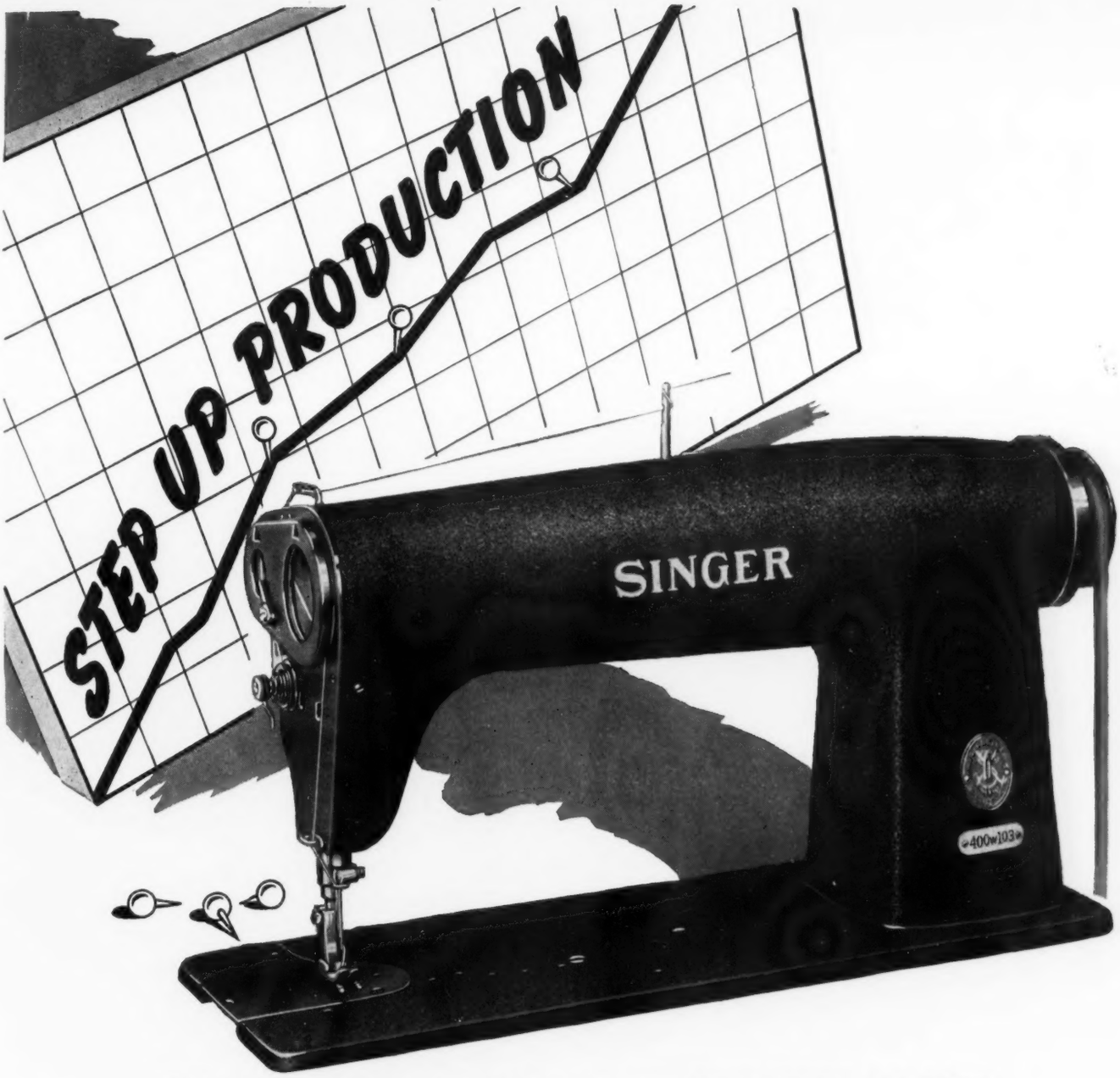
For the same reasons that QM has limited preference authority, so has the Air Corps, Ordnance Department, Engineer Corps, etc., and also the Navy's Bureau of Supplies and Accounts. But, as previously explained, all of these military preference authorities are actually coordinated by the Army and Navy Munitions Board, which in turn can do nothing without the civilian authority of OPM, of which the President is boss. This is merely to explain that if you get a certificate from the Army or Navy, instead of OPM, on an order for Nylon yarn, or balloon cloth, you will know why.

3. With reference to *Project Ratings* covering plant expansions, very few of these have been issued to the textile industry. Those few which have been issued were designed to increase capacity for bottleneck materials—mainly duck. It is almost useless to apply for a priority for a plant expansion involving new equipment unless you can get the backing of the Army, or Navy. This backing is forthcoming only when impossible to get the materials from existing sources.

4. The *Defense Supplies Rating Plan* has not yet been extensively used in the textile industry. As previously explained in this article, the plan permits a producer each quarter to get an A-10 rating on such percentage of scarce materials as his experience in the preceding quarter indicates he will need for production for defense in the current quarter. At present, this plan is available only to producers who, sure they can turn material out with the aid of preference ratings, thereby make it available in wholesale and warehouse channels.

5. *Industry-Wide Control* needs little comment in addition to that already made. Some materials are so scarce that the Government simply allocates them, without using certificates. Included in the list are silk, silk waste, cotton linters, Manila fiber and cordage. Probably more will be added.

When in doubt about anything, write to the Textile Branch, OPM, Washington, D. C.



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NEWS ABOUT MEN

George F. Lang was re-elected president of the Full-Fashioned Hosiery Manufacturers of America for his thirteenth consecutive term at the organization's annual meeting in Philadelphia Sept. 25. **Charles Lehmuth** is the administrative secretary of the group.

George A. Fenton and **Stokes F. Burtis,** vice-presidents of the R. K. Laros Silk Co., Bethlehem, Pa., have joined the organization of the Duplan Corp., New York, which concern has purchased a substantial portion of the throwing machinery of the Laros company. Mr. Fenton will be located in Duplan's New York office and Mr. Burtis will cooperate in mill management. Mr. Fenton is president of the Throwsters' Research Institute.

Henry Bromley, Jr. of North American Lace Co., Philadelphia, has succeeded **Hugo N. Schloss** of Liberty Lace & Netting Works, as president of the American Lace Manufacturers Association.

Allyn B. McIntire, vice-president of Pepperell Mfg. Co., Boston, has been appointed to represent the textile industry in the office of **N. A. McKenna,** chief of the pulp and paper section of the OPM, Washington, in servicing textile manufacturers with paper products used in packaging textiles.

Robert C. Kelley has resigned as purchasing agent of Converse Rubber Co. and of Hodgman Rubber Co. and as chairman of the textile committee of the National Association of Purchasing Agents. He has been named director of purchases for Basic Magnesium, Inc., Cleveland, Ohio.

B. B. Blackwelder, president of A. A. Shuford Mill Co., Hickory, N. C., and Granite Falls (N. C.) Mfg. Co., for some years, has resigned to devote his full time to the newly organized Quaker Meadow Mills, Hildebran, N. C.

W. R. Williams has been elected president and treasurer of Sanford (N. C.) Cotton Mills, succeeding **E. M. Underwood, Sr.,** Sanford, who has retired.

Clarence B. Asay, Delanco, N. J., has resigned as representative of Grove Silk Co., Scranton, Pa. Mr. Asay covered New Jersey, Pennsylvania and northern Virginia territories for Grove during the last four years.

Prof. Russell L. Brown has been elected head of the Wool Yarn Department at Lowell (Mass.) Textile Institute to succeed **Prof. Edgar Harrison Barker,** retired. Professor Brown is a graduate of Lowell, class of 1921. He has had mill experience with Chelsea Fiber Mills, with Burlington Mills of American Woolen Co., and with Franklin Mills of M. T. Stevens & Sons Co. as assistant superintendent. In 1929 he joined Lowell Textile Institute as assistant professor in charge of woolen yarns and reworked fiber.

R. L. Stowe, Sr., W. J. Pharr, and **Daniel J. Stowe,** executives of the Stowe Mills, Inc., McAdenville, N. C., were hosts recently at a banquet at the Barringer Hotel, Charlotte, N. C., given for the company's superintendents, overseers, section men, and mechanics.

E. A. Pumphrey, selling agent of Elmira (N. Y.) Knitting Mills, has been named vice-president of that company in charge of sales.

Alfred Dunson has been named president of the Dunson Mills, LaGrange, Ga., succeeding the late Sanford Dunson. **Albert G. Dunson,** superintendent of the mills, has been elected vice-president, succeeding **Richard Hutchinson,** retired, and **Walter Morton** has been named secretary-treasurer of the mills.

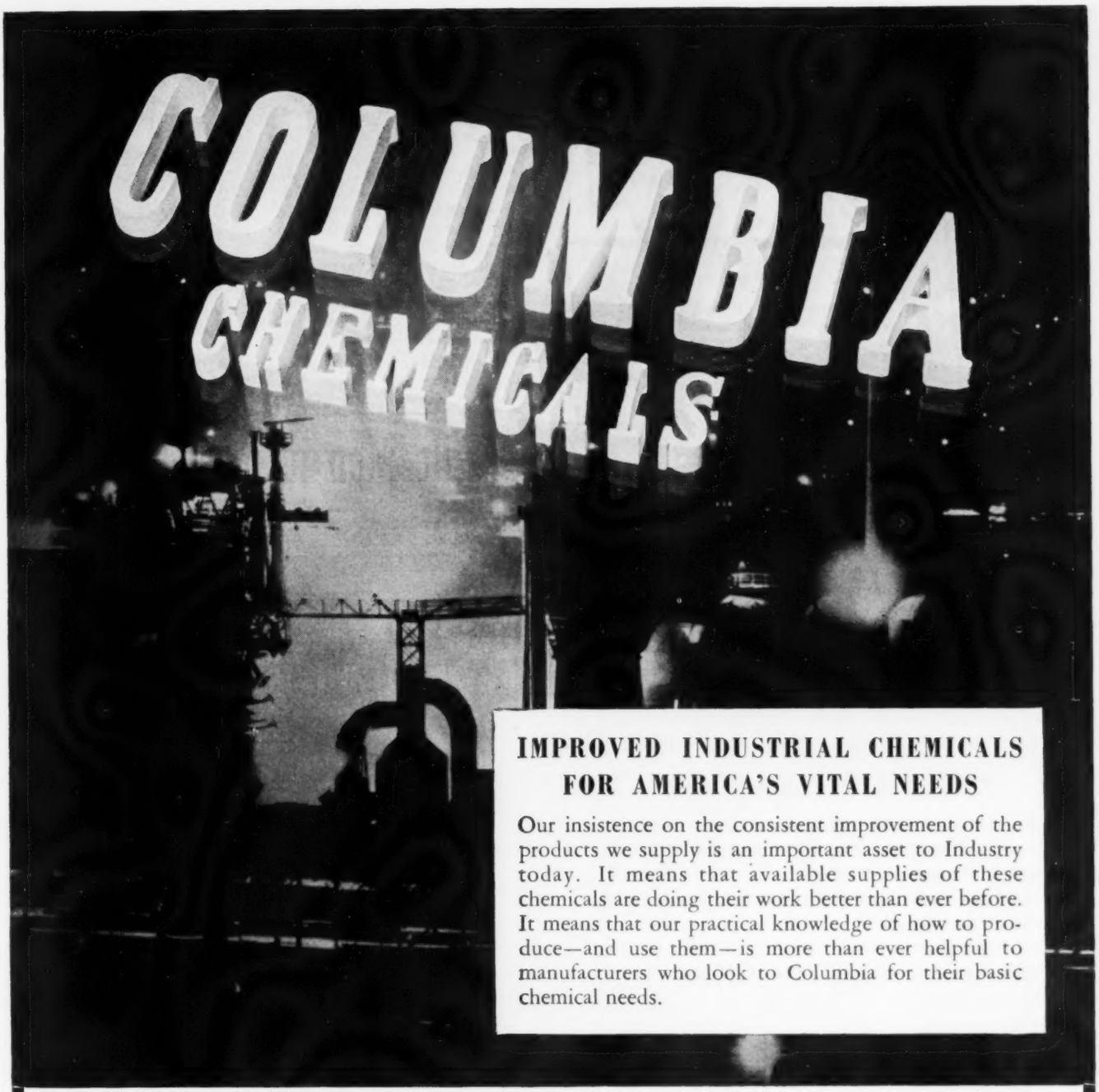
Albert Carpenter, owner of Carpenter Hosiery Mills, Wytheville, Va., and manager of production and sales for Rutledge (Tenn.) Hosiery Mill Co., has become member of the firm of Harry C. Belber Co., New York hosiery sales agents.

Lessing J. Rosenwald, head of the OPM silk substitution section, has been appointed director of a new Defense Conservation Bureau, to direct nationwide waste collection campaigns and initiate simplification measures to conserve materials.

Girdler Matlack has become director of recreation for the Lanett (Ala.) mills of the West Point Mfg. Co.

Louis Van Tilburg, formerly with United Dye Works, is now representing the screen dyeing department of the Hellwig Silk Dyeing Co., in Paterson and New York.

James A. Ferguson, for the last sixteen months assistant to the superintendent of



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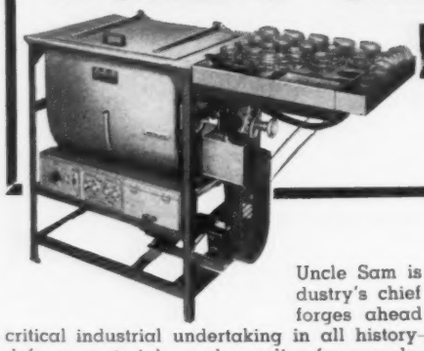

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weaving at Pelzer Mills, has resigned to accept a similar position with Riverside & Dan River Mills, Danville, Va.

Percy S. Howe, Jr. has been elected president of the American Thread Co. and **E. M. Phillipi** has been made chairman of the board. Mr. Howe joined thte American Thread four years ago as vice-president after a period of some years as vice-president of Suncook Mills. He was at one time president of the National Rayon Weavers Association.

Ralph W. Conant, president Emery & Conant Co., Boston wool house, has been appointed chairman of the textile, wool and leather division in the 1941 Salvation Army appeal for $200,000. Mr. Conant will be serving his third year as chairman of the wool division.

Miss Helen M. Daggett, for the last six years decorating consultant with Bigelow-Sanford Carpet Co., New York, has resigned and is resuming activities in her own business of decorating and sales promotion (which she conducted for more than five years before joining Bigelow-Sanford).

Textile Men in Armed Services

Max G. Johl

Max G. Johl, president and general manager of Max Pollack & Co., Groton, Conn., has been called into active service as first lieutenant in U. S. Army. He is administrative officer at the Base Hospital, Army Airfield, Windsor Locks, Conn. **Walter Lowell,** also of Max Pollack & Co., superintendent of dyeing, has been appointed first lieutenant in the Connecticut National Guard and assigned to duty in the Chemical Warfare Service.

Edward H. O'Hara of Norwich (N. Y.) Knitting Co., has been commissioned an ensign in the Navy and is at present stationed at the Navy Dept., Washington, D. C.

L. J. Ball, son of H. O. Ball, treasurer of Pepperton Cotton Mills, Jackson, Ga., has been called to active duty as first lieutenant in the U. S. Q. M. C. Depot, Washington, D. C.

Rodney B. Graham, textile chemist for the Johnson Chemical Co., Charlotte, N. C., is now first lieutenant of infantry in the U. S. Army Reserve Corps, having just been promoted to this position.

Edmund F. Correia, graduate of the New Bedford Textile School, has been appointed assistant engineering aide in the office of the Chief of Ordnance, Washington, D. C. Previously had been associated with the Soule Mill.

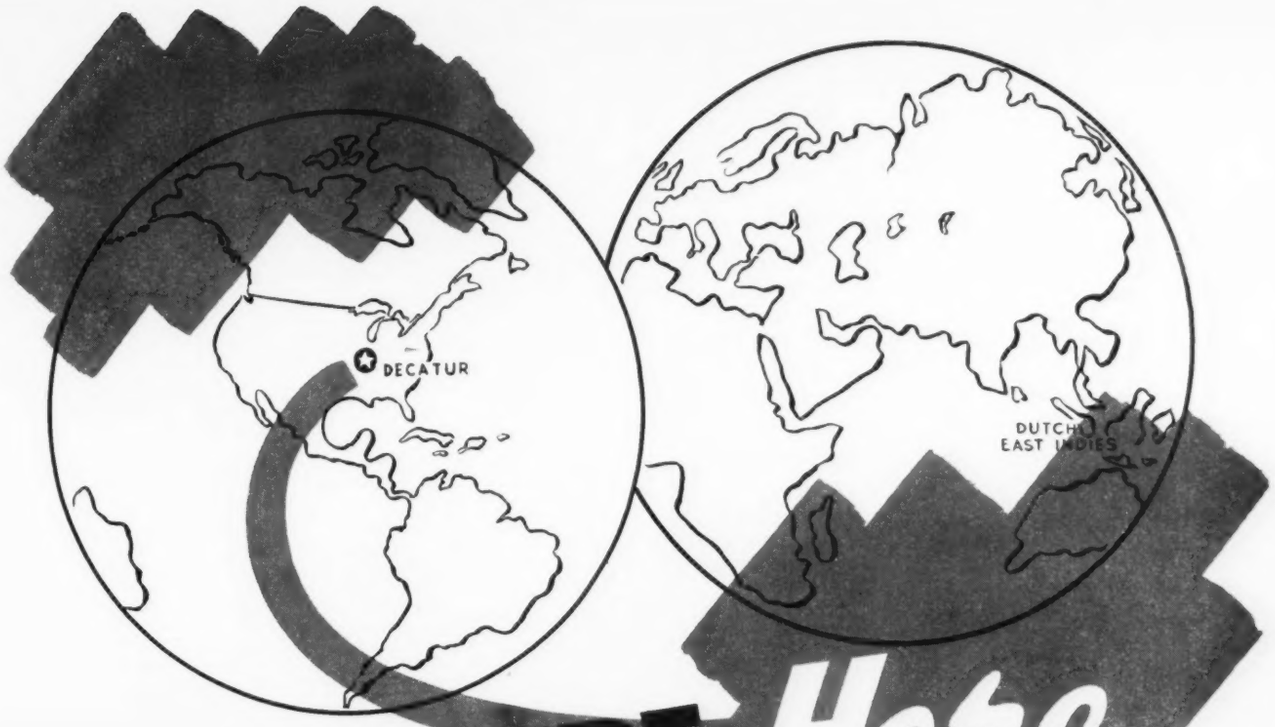
Joe Goodman, formerly with Federated Textiles in Philadelphia is now a lieutenant in the Army and has recently been transferred to the Philippine Islands.

Ed Atkins, of Deering, Milliken & Co., New York, N. Y., who is a first lieutenant in the Army Reserves, has been called into active service.

Warren McKenna of Wellington Sears Co., New York is now with the Coast Guard in the New York Harbor Patrol. **John Wulfman,** also of Wellington Sears is in the Navy stationed at the Naval Air Ground School, Pensacola, Fla. **Nelson Knapp** is with the Marine Corps at Paris Island, S. C. and **Malcolm Mobray** is in the Army at Camp Upton, L. I.

Charles H. Burch is now first lieutenant in Signal Corps at Camp Jackson, Columbia, S. C. He had until recently represented Curtis Lighting, Inc., at Atlanta.

Chas. H. Burch



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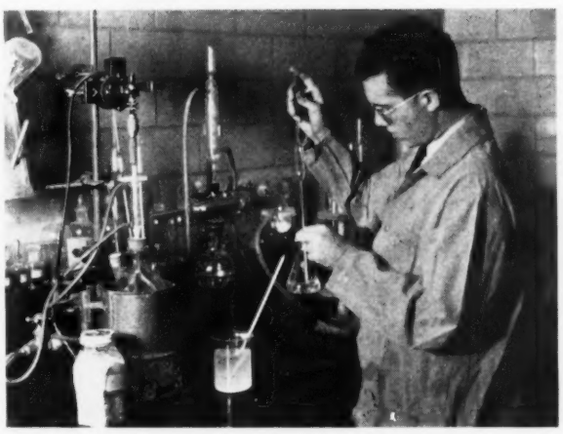

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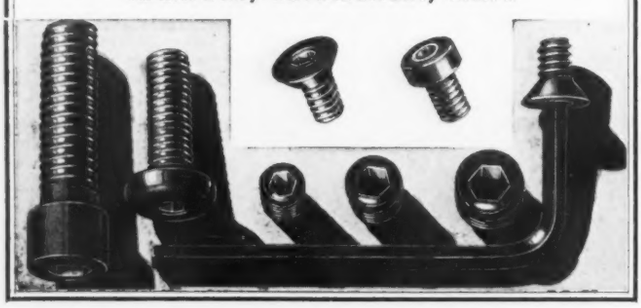


NEWS ABOUT MEN

Edward H. Suessmuth, Jr., assistant production manager of Shelton Looms for the last several years, has been appointed resident manager in charge of production, of Caromount and Wilson Divisions of Shelton Looms, at Rocky Mount and Wilson, N. C. **Ralph Sturtevant,** in charge of all weaving, warping and quilling in the Caromount Division, assumes similar additional duties in the Wilson Division. **Gordon Floe** will be in charge of converting in the new addition to Caromount at Rocky Mount, N. C.

Walter Dutton retired as secretary of Commodity Exchange, Inc., New York, on Sept. 30. He has been secretary of the exchange since it was founded on May 1, 1933.

Walter F. Kraemer, superintendent of Pendleton Mfg. Co., LaFrance, S. C., since April, 1939, has been promoted to works manager in charge of all operations. **Karl H. Espieg,** superintendent of plush operations in Philadelphia, has been transferred to the southern plant and will act in the same capacity. **John Buchert** is transferred from the Philadelphia plant and will assume the position as chemist.

W. L. Davis, Reidsville, N. C., production manager of Edna Mills Corp. for a number of years, resigned Sept. 21, to become connected with the production department of Carter Fabrics Corp., Greensboro, N. C., to do special research work. He was succeeded at Reidsville by **J. D. Cassada,** for some time with Hartsville (S. C.) Cotton Mills.

Gustave Lamarche has been elected secretary of the trustees of the New Bedford Textile School, New Bedford, Mass.

William C. Fitts, secretary-treasurer of Pro-phy-lac-tic Tooth Brush Co., Florence, Mass., since 1929, has resigned to accept a position as treasurer, controller and secretary of the Flax Processing & Linen Co. of Greystone, R. I.

Miss Eleanor Downes, formerly connected with B. F. Dewees, Philadelphia, has been appointed local publicity representative for American Viscose Corp., Marcus Hook, Pa. Following a brief training period in New York, she will inaugurate a special educational and promotional program in behalf of Crown Tested rayon fabrics for retail stores in the Marcus Hook territory.

The North Carolina State Board of Vocational Education elected the following as a Board of Trustees for the proposed Textile Institute which will be built in Gaston County, N. C.: **O. M. Mull,** Shelby, N. C.; **F. B. Bunch,** Statesville, N. C.; **C. A. Rudisill,** Cherryville, N. C.; **J. B. Vogler,** Charlotte, N. C.; **Chas. A. Cannon,** Kannapolis, N. C.; **Prof. Frank Jackson,** Davidson College, Davidson, N. C.; **Prof. T. E. Brown,** who is director of vocational education.

Dr. Alexander Dorner has resigned as curator of the museum of the Rhode Island School of Design in Providence. He came to this country from Germany approximately three years ago.

Joseph Love, formerly with Blackinton (Mass.) Woolen Co., is now in charge of the former Tiffany Worsted Mill at Webster, Mass., which has been purchased by the Lawrence Blanket Co. of Worcester and Wilsonville, Conn.

E. H. Wilkins, Greensboro, N. C., of Burlington Mills Corp., at a meeting Sept. 18 at Leaksville, N. C., was elected president of the Central Piedmont Safety Council.

Alex W. Bell has been made assistant superintendent of Werthan Bag Corp., Nashville, Tenn. He formerly held the same position at Anniston (Ala.) Mfg. Co.

E. D. Newton, formerly of the Springs Cotton Mills, Kershaw, S. C., is the new superintendent of Rock Hill (S. C.) plant of Highland Park Mfg. Co., succeeding **J. J. Love,** who resigned to accept a similar position with the Ware Shoals (S. C.) Mfg. Co.

C. Weston Taylor, superintendent of Sellers Mfg. Co., Saxapahaw, N. C., has resigned to accept a similar position with Lakedale Mills, Fayetteville, N. C.

R. H. Hope has become superintendent of Jackson Mills, Wellford, S. C., succeeding **A. G. Jordan,** resigned.

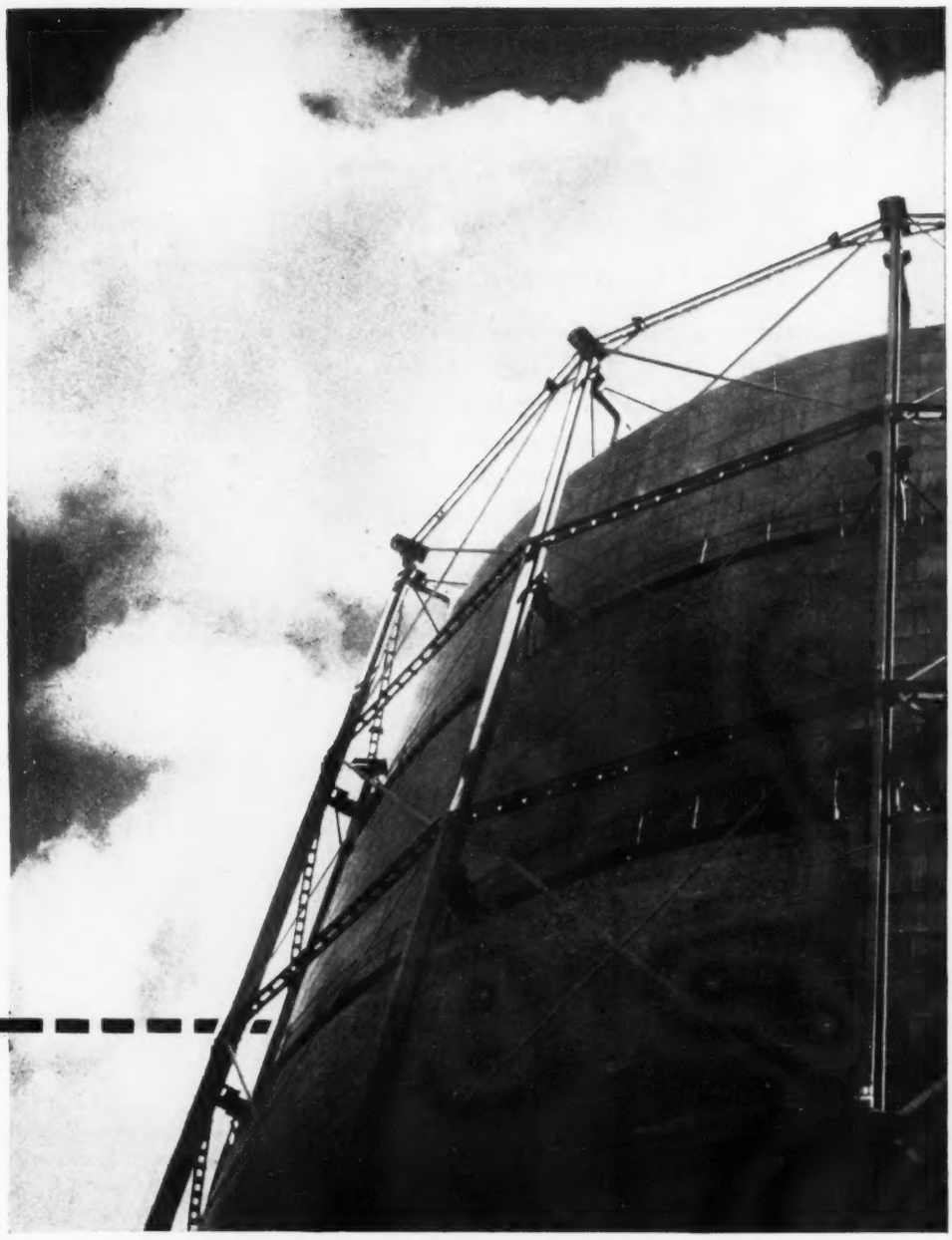
Dr. W. G. Sink, chemist for Cannon Mills Co., Kannapolis, N. C., has resigned and has become associate professor of chemistry at The Citadel, Charleston, S. C.

James A. Ferguson, formerly assistant superintendent of weaving at Pelzer (S. C.) Mills, has jointed Riverside & Dan River Cotton Mills, Danville, Va., in a similar executive capacity.

W. H. Taylor, superintendent of the Lower Unit of Pelzer (S. C.) Mill, has resigned to accept the position of superintendent of Merrimack Mfg. Co., Huntsville, Ala.

A. B. Brown, formerly of

A DYEHOUSE PROBLEM THAT STARTED HERE



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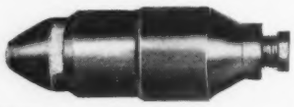

RIHCO Type B Atomizer

IF the present atomizers in your mill are giving you only half the needed capacity you can get all that is needed by replacing ordinary atomizers with RIHCO. New means of atomization permit smaller compressors and eliminate half the former cost for operation.

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Aldrich Machine Works
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Faster Skein Reeling plus Savings with FIDELITY TWIN-UNIT SYSTEM

Five Outstanding Advantages:

1. Easier, lighter work for operator—no high lifting.
2. Greater output per hour—30 to 50 seconds doffing and clipping cycle.
3. Close control of skein weight and yardage.
4. Greater flexibility for changes in production, dye lots, yarns, etc.
5. Space saving—up to 50% less floor area.

These five and ten more advantages described in Bulletin 3909 on FIDELITY Skein Reeling Machines. Write for it.

OTHER FIDELITY MACHINES

Braiders
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Belt Loop Cutters
Pocket Folding Machines
Special Machines designed and built

FIDELITY MACHINE CO.
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NEWS ABOUT MEN

Belmont, N. C., has become night overseer of carding and spinning at Southern Mills, Inc., Lincolnton, N. C.

Moses Macia, recent graduate of New Bedford (Mass.) Textile School, is now with Deering, Milliken & Co., New York. This corrects an erroneous statement in this column last month.

J. F. Blackmon, for the last 11 years manager of the Pelzer (S. C.) Mills, has resigned effective Nov. 1. He is succeeded by **L. A. Savage.**

E. B. Blackstock has been appointed assistant superintendent of Mills No. 1 and No. 2 of Granite Falls (N. C.) Mfg. Co. He was promoted to this position.

Howard Grimes, formerly of Opp, Ala., has become overseer of spinning at Bama Cotton Mills, Enterprise, Ala.

Oscar Hale, who has been overseer of twisting at West Point Mfg. Co., Langdale, Ala., unit, has been appointed overseer of spinning also, in addition to his other duties.

T. C. Giles, formerly of Graniteville, S. C., has become superintendent of Exposition Cotton Mills, LaFayette, Ga.

Lewis N. Peeler is now assistant to the overseer of finishing, twisting, winding and spooling of Irene Mill, Taylorsville, N. C.

W. B. Phillips, formerly overseer of spinning at West Point Mfg. Co., Langdale, Ala., has accepted the position of overseer of spinning at Dunson Mills, LaGrange, Ga.

T. L. Griffin, formerly loom fixer at Micolas Cotton Mills, Opp, Ala., has been promoted to overseer of weaving.

R. V. Revels, formerly superintendent of Aragon Mills, Rock Hill, S. C., who resigned some months ago, has accepted the position of superintendent of Mansfield and Jennings Cotton Mills, Lumberton, N. C.

Denny Mayberry, second-hand in twisting at Irene Mills, Taylorsville, N. C., has been promoted to assistant to the overseer of spinning.

W. H. Smith, formerly superintendent of Dover Mill Co., Shelby, N. C., has resigned and will establish a small yarn mill at Lincolnton, N. C.

Otis Davis, formerly of Kosciusko, Miss., has become superintendent of the mechanical department of Micolas Cotton Mill, Opp, Ala.

Worth Camel has resigned as research engineer of United States Rubber Products, Inc., Hogansville, Ga., and is now instructor in yarn manufacture, testing and cotton classing in the Textile Engineering Department of Texas Technological School, Lubbock, Tex.

Chris. Augustynowicz has been appointed head dyer at Valley Silk Dyeing & Finishing Co. Ltd., Valleyfield, Que.

K. S. Stroud, formerly of Spartanburg, S. C., has become overseer of weaving at Jackson Mills, Wellford, S. C.

J. P. Bagwell, overseer of the cloth room of Monaghan Mills, Greenville, S. C., for many years, has resigned and become overseer of the cloth room of American Spinning Co., division of the Florence Mills, Greenville, S. C.

Olaf Roach, formerly of Lowell, N. C., has become superintendent of Langley (S. C.) Mill.

C. G. Jones, formerly superintendent of Mallison Braided Cord Co., Athens, Ga., has resigned to become superintendent of Fickett Cotton Mills, Whitehall, Ga.

Maurice McQuinn has resigned his position with A. D. Julliard Co., Aragon, Ga., and become superintendent of Lucy Mills, Marietta, Ga.

P. E. Gillespie has been promoted to overseer of weaving at Union-Buffalo Mills Co., Union, S. C.

Walter Jones has become a cost accountant at West Point Mfg. Co., Lanett, Ala.

J. W. Reynolds has been promoted to night overseer of spinning at No. 2 unit of Jefferson Mills, Crawford, Ga.

J. M. Neal has become superintendent of Sellers Mfg. Co., Saxapahaw, N. C.

C. W. Odom has become office manager of St. Pauls (N. C.) Rayon Mills.

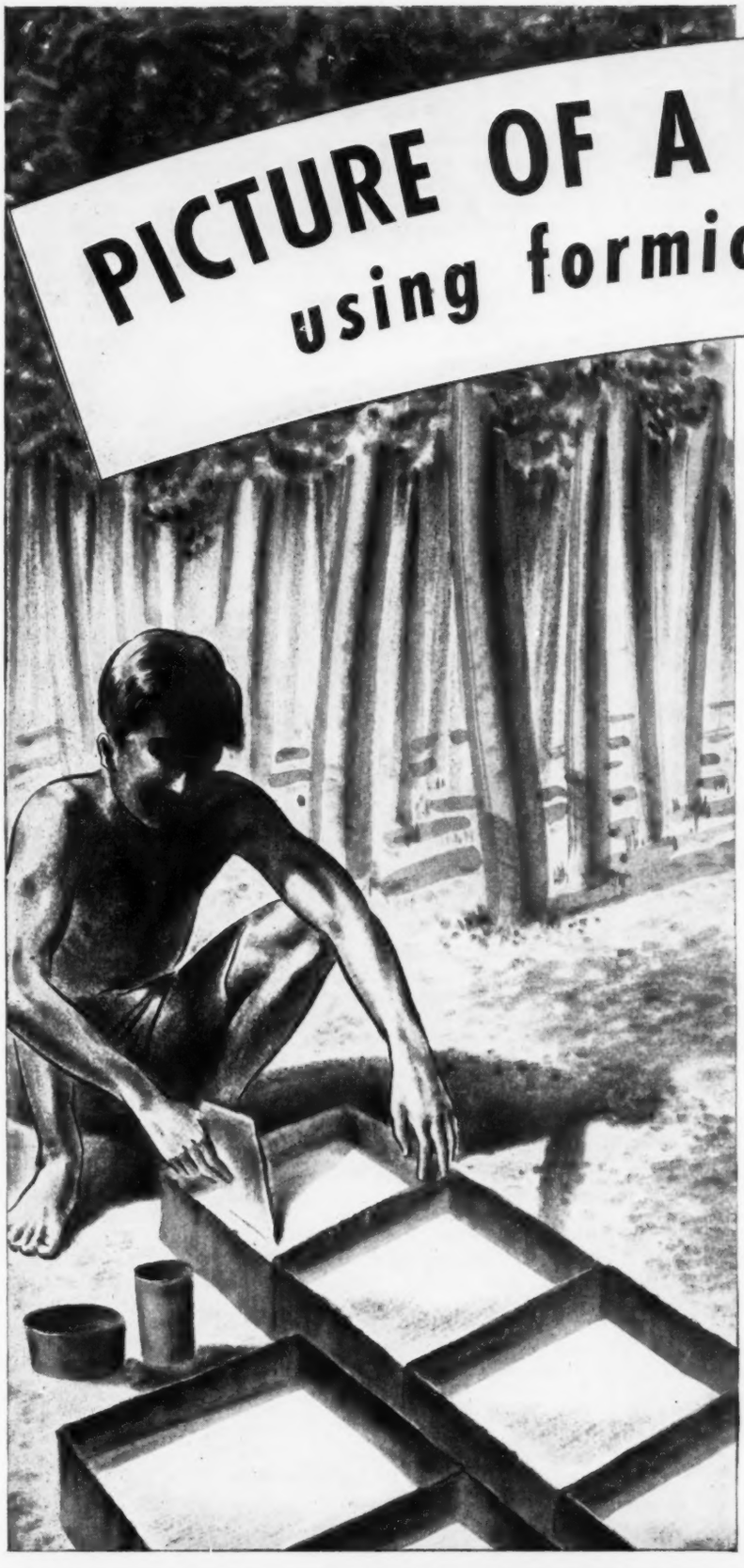
J. A. McLean has been appointed office manager at Puritan Weaving Mills, Fayetteville, N. C.

Ernest Shumake has become general overseer of the departments at night at Fickett Cotton Mill, Whitehall, Ga. He was formerly overseer of spinning and twisting at Georgia Duck & Cordage Mill, Scottdale, Ga.

W. D. Pope of Gastonia, N. C., is now superintendent of Dalnoca Mills, Dallas, N. C., a new mill.

Norman G. Glattfelter has become manager of Elberton (Ga.) Silk Mills, formerly Seaboard Silk Mills.

W. H. Conner, formerly with the Gastonia (N. C.) Combed Yarn Mills, has become general overseer of spinning, twisting and winding at Virginia Mills, Inc., Swepsonville, N. C.



PICTURE OF A CHEMIST
using formic acid

LATEX COAGULATES if you leave it in the sun. But Nature is flighty—and slow. So the natives on rubber plantations shorten the process to 2 hours—simply by adding formic acid. And they produce a light-colored rubber, with high resistance to aging. That makes them chemists—even if all they know is this: how to use formic acid to make one product better.

More versatile chemists value formic acid as a fundamental tool which has scores of uses . . . a tool which helps them, just as it helps jungle chemists, to better their products. For example, in the textile field, formic acid is almost indispensable. It permits results not obtainable with other acids. Formic acid is a volatile organic acid which dissociates well. It has a low molecular weight (46) and is free from sulfates and chlorides.

It produces more brilliant colors free from streaky or cloudy effects and gives level colors even in cross dyeing. It improves fastness, lessens crocking and is a good neutralizer for sulfur dyes. It will not tender delicate fabrics.

Whether you use Formic acid or other processing chemicals it will pay you to take advantage of the experience of the du Pont Technical Service man. He can often suggest the use of du Pont chemicals in ways that will save you money, give you better results, or speed up operations.

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"BEAM BLOWING" ISN'T NECESSARY!

Most mills using Sulphur Colors expect high losses due to blowouts. That expensive nuisance can be greatly reduced or completely eliminated with

STANZOLENE

This new formula usually works wonders wherever given a trial—a fact attested to by letters of praise from several important beam dyers who formerly suffered losses up to 50%. . . . Write us for complete details and a working sample to prove our claims in your own dye house.

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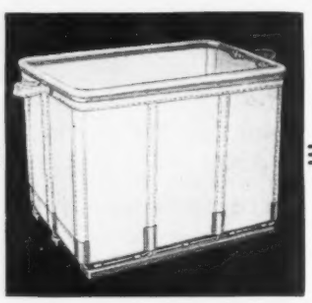

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NEWS ABOUT MEN

J. F. Whorton has resigned as overseer of twisting at Brookside Mills, Knoxville, Tenn.

V. M. Abernathy, formerly of Avondale (N. C.) Mills, has become superintendent of the mechanical department of Alexander Mfg. Co., Forest City, N. C.

J. W. Godfrey, formerly of Gaffney, S. C., has become overseer of carding at Phenix Mills, Kings Mountain, N. C.

Roy Martin, who was formerly loom fixer at Union-Buffalo Mills, Buffalo, S. C., has been transferred to the Union, S. C., unit of the same company and promoted to second hand in weaving.

Saul Peterzell, who has been connected with Jackson County Mills, Pascagoula, Miss., has been promoted to superintendent, and will have charge of the knitting, cutting, operating and finishing departments.

C. G. Bramlett, Jr., has accepted the position of cost accountant at Avondale Mills, Alexander City, Ala., unit.

W. G. Grant, has become office manager of Ranlo (N.C.), Mfg. Co.

Obituary

John Appleton Mandeville, 59, president of Mandeville Mills, Carrollton, Ga., died Oct. 5. He served in the Navy for five years after leaving Annapolis. He was at one time president of Cotton Manufacturers Association of Georgia.

W. R. C. Smth, 69, founder and chairman of W. R. C. Smith Publishing Co., Atlanta, Ga., died Oct. 7. Early in his career he was associated with the McGraw Publishing Co. of New York. He went to Atlanta in 1906 and started a group of business periodicals which now include the following: *Cotton, Southern Hardware, Southern Automotive Journal, Electrical South,* and *Southern Power & Industry.*

John Lewis Coon, 63, owner of Atkinson, Haserick & Co., Boston importers of textile machinery and Egyptian cotton, died at his home in Wakefield, Mass., Oct. 5.

Albert S. Howe, 68, president of Wuskanut Mills, Framingham, Mass., and of Roxbury Carpet Co., Boston, died in Boston Sept. 29.

Newton H. Thomas, 64, Gastonia, N. C., traveling representative for Victor Ring Traveler Co. in that area, died there Sept. 29.

Harry Williams, 69, retired cotton goods merchant, died at his home in Plainfield, N. J. Sept. 8. Mr. Williams began his business career as a young man with the firm of A. G. Hyde & Sons, New York. He was later member of the firm of Coriell-Williams Co. During the world war he was assistant chief in the cotton goods section of the procurement branch of the Army Q.M. From 1923 to 1929, when he retired, he operated a cotton converting department for Pacific Mills.

Arthur G. Gordon, 70, secretary-treasurer of Gordon Bros., Hazardville, Conn., died recently.

John C. Thorne, 68, vice-president of Erwin Cotton Mills Co., Durham, N. C., and associated with numerous other business enterprises in New York and the South, died in New York Sept. 17.

George Pierce Hammett, 69, for many years secretary and assistant treasurer of Orr Cotton Mills, Anderson, S. C., but forced to retire from his textile duties due to ill health, died Sept. 7.

James M. Gamble, 45, purchasing agent for Standard-Coosa-Thatcher Co., Chattanooga, Tenn., and with that concern for 26 years, died last month. He had served as president of the Chattanooga chapter of the National Association of Purchasing Agents.

Earl E. Mowry, 63, former vice-president of J. & P. Coats (R. I.) Inc., died at his home in Arnolds Mills, Cumberland, R. I., on Sept. 5. He was connected with the Coats organization 37 years, retiring in 1931.

Roy Berry, 71, vice-president and secretary-treasurer of Rome (Ga.) Hosiery Mills and Berryton Mills, died at Rome recently.

Harry L. Willis, 63, representative of Union Special Machine Co. in the Cincinnati territory, died at Grand Rapids, Mich. last month. He had been with the Union Special since 1911, and had seven patents associated with sewing machines and sewing methods to his credit.

Wallace M. Smith, formerly associated with Highland Park Mfg. Co., Charlotte, N. C., and also Camperdown Mills, Greenville, S. C., and more re-

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Halloween . . . cold clear nights . . . and brisk fall weather are "GO" signs for production of Spring textiles.

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Sulfuric Acid • Tetrasodium Pyrophosphate
Tin Crystals • Trisodium Phosphate

GENERAL CHEMICAL TECHNICAL SERVICE DIVISION

This division is manned by a staff of technically trained men conversant with the use of chemicals in the Textile Industry. Inquiries for information are given prompt attention—and where advisable, a representative will be assigned to work on the problem with the customer in his own plant.

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DOUBLE CARDED
FINEST QUALITY
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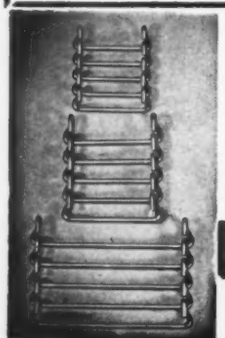
OPPORTUNITIES
TO IMPROVE YOUR PRODUCT
AND SAVE YOUR MONEY . . .



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Accurately made from high grade material—built to last and to hold its shape.

SINKER HEAD SLOT CUTTERS

The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

Send for bulletin giving full details on these and other products.

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THOMAS & SKINNER
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NEWS ABOUT MEN

Samuel C. Lamport, 61, head of the Lamport Co., New York, died suddenly at his home in New Rochelle, N. Y., on Sept. 13. To Sam Lamport may well go the credit of being the most widely known man in the textile industry. He had been closely identified with many of the industry's constructive movements, and, because of his vital interest in exports, he had traveled extensively in Europe and the Orient. It is said that Sam Lamport personally purchased $1,000,000 worth of liberty bonds during the last war and that he was directly responsible for the sale of additional bonds valued at nearly $19,000,000. He was born in Marianpol, Poland, in 1880 and was brought to this country by his parents when he was one year old. He spent much of his youth in Burlington, Vt., and was graduated from Brown University in 1905. He was a pioneer in successful handling of off-goods. With his rising financial success in cotton goods, Mr. Lamport interested himself in all angles of philanthropy and was a trustee of several colleges and hospitals. He was also active on the boards of several banks. Sam had been for some years a regular attendant at conventions of mill executives, and he had for some years given more time to matters of general trade importance than to his own business. His helping hand was ready wherever needed. He interested himself in the disposition of the cotton surplus and was author of the "Lamport Plan". Last November he donated 213 pianos to the United States Army through the Jewish War Veterans of the U. S. One of his great prides was that in the 50 years his company had been in business it had never had a law suit over a contract, nor had it ever brought such a suit against any one. He numbered as his friends hundreds of famous persons in a wide variety of fields. His funeral brought an outpouring of several thousand, and while the temple of the Society for the Advancement of Judaism in which it was held was filled to its capacity of 500, the others thronged the streets outside.

cently business manager of Coker College, Hartsville, S. C., died recently.

George N. Norton, 77, who had been in the cotton goods converting business since 1882 until his retirement three years ago, died recently at his home in Brookline, Mass. He was with Danforth Clark Co. for many years and in 1932 founded George N. Norton Co.

Herbert Edward Kinkaid, 48, in charge of merchandising Dundee towels for Woodward Baldwin & Co., New York, died Sept. 16.

Harry Begiebing, of Huddersfield Woolen Co., New York, died Sept. 16. He had been in the woolen business all his business life, and was associated with J. & E. H. Wilson for nearly 30 years.

Charles S. White, 67, who was first superintendent of the Lizzie and Ethel Cotton Mills, Selma, N. C., serving in that capacity for more than 20 years, died recently.

Charles Victor Sellars, 76, pioneer hosiery manufacturer of Burlington, N. C., died Sept. 20. He was president of Sellars Mfg. Co., Saxapaw, N. C., and vice-president of the Sellars Hosiery Mills, Inc., Burlington. He was vice-president of the National Bank of Burlington, and director of the Jordan Spinning Co.

John Morse, 25, son of Col. Robert H. Morse, president of Fairbanks, Morse & Co., died as result of an automobile accident recently. He was assistant manager of the company's San Francisco branch.

James A. Hawley, 47, former operator of Dunn (N. C.) Hosiery Mills, died Aug. 12 at Coats, N. C. He formerly served as superintendent of the old Harnett Hosiery Mills at Dunn.

J. Clinton Squier, 59, secretary of Conestee (S. C.) Cotton Mills, died Aug. 27.

Myron F. Eastwood, 74, former superintendent of Puritan Mills of American Woolen Co., Plymouth, Mass., died Sept. 8. He was born at Winooski, Vt., entering the woolen industry as a young man, and going to Plymouth from the Wood mill in Lawrence in 1914. He retired in 1937.

Fred B. Crowell, 68, for 20 years sales representative for E. H. Best & Co., textile specialists of Boston, with headquarters in Greenville, S. C., died recently.

NAPENIZE

The Positive Anti-Mildew Treatment

THE word NAPENIZE has become the symbol of an extremely effective anti-mildew treatment. More and more canvas processors are approving this new treatment because of its definite and positive advantages.

No need to waterproof when you NAPENIZE. The physical affinity of the chemical compound for the cloth makes waterproofing unnecessary. The effectiveness of the treatment remains after continued exposure to the elements.

NAPENIZE gives the cloth a much greater degree of permanent protection—hence longer life and greater customer satisfaction. It's an easy treatment to apply and low in cost. Get further information about this real advance in anti-mildew treatment. Write Dow today.

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New Textile Laboratory

AT YOUR SERVICE!

THESE are photographs of the interior of the modern, efficient new laboratory which the Corn Products Sales Company has established at Greenville, S. C., for testing and experimental work on textiles.

You are cordially invited to call on the resources of this laboratory! Our technicians will help you work out any WARP SIZING, FINISHING or other textile problems.

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TEXTILE MILL NEWS

Cotton Mill News

Alabama Mills, Inc., Birmingham, Ala., report net profit for fiscal year ended June 30, 1941, of $450,615, against net loss of $184,898 for previous 12-month.

Philip Carey Mfg. Co., Inc., Lockland, Cincinnati, Ohio, has purchased over 2 acres of land at Talman Ave. and Roosevelt Rd., Chicago, Ill., and will use as site for new mill at later date, when lease expires in 1942 on a one-story building on property. This existing structure, about 40,000 sq. ft. of floor space, will be used as a warehouse at that time, with new mill located on adjoining site.

J. & P. Coats, Inc., Pawtucket, R. I.—Four-story warehouse at mill of this company was damaged by fire recently, with loss reported close to $30,000. Structure was formerly one of the units of the Manville-Jenckes Co. Rebuilding is planned.

Convenience, Inc., Greenville, S. C., recently organized to manufacture cotton cloth specialties, including bandages, etc., has begun operations in new mill on River St., giving employment to over 100 persons. George Norwood is president and treasurer; and R. C. McCall, secretary.

Dixie Cotton Mills, LaGrange, Ga., operated by West Point (Ga.) Mfg. Co., has begun erection of one-story addition, for which general contract was let to Hardin & Ramsey, Atlanta, who also have received an award for alterations and improvements in present mill, work to be carried out at same time. Robert & Co., Atlanta, are engineers.

Eagle & Phenix Mills, Columbus, Ga., will expend close to $250,000 for new four-story addition (previously reported), including equipment. It will be 150 x 300 ft., located in front of present No. 3 mill of company, on Twelfth St. Superstructure is being placed under way by Williams Lumber Co., Columbus, general contractor. J. E. Sirrine & Co., Greenville, S. C., are architects and engineers.

Fairfax (Ala) **Mills,** of West Point Mfg. Co., have plans under way for one-story addition, 70,000 sq. ft. of floor space, estimated to cost over $150,000, including equipment. Robert & Co., Atlanta, Ga., are engineers.

Fenimore Fabrics, Inc., Cobleskill, N. Y., are completing an addition to increase capacity by 25%.

Grosvenor Co., North Grosvenordale, Conn., cotton manufacturers, has been sold to a new corporation. William Grosvenor remains president and G. V. Meehan, treasurer.

Helen Mill, Rock Hill, S. C., closed for some time, has been purchased from the Royce Chemical Co. by a group of Rock Hill citizens who plan to renovate the property and lease it for 10 years to Samarkand Rugs, Inc. That company will install machinery to produce yarns for use in the manufacture of their rug products.

Jewel Mill, Thomasville, N. C., has been purchased by Robert Goldberg and associates, and is now being operated by them. It is 12,500-spindle mill. Robert Goldberg of Gastonia, N. C., is president; H. A. James of New York, vice-president; C. C. Armstrong of Gastonia, treasurer, and G. A. Cooper of Charlotte, N. C., secretary. Joseph W. Hawthorne remains as general manager.

Marilyn Mills, Anniston, Ala., yarn plant, has been put into operation under direction of Fred Campbell, manager.

Matthews Mills, Abbeville, S. C., are building 130 houses for employees. One hundred are duplexes, containing eight rooms and two baths, and the remainder are one-family units. All are of brick veneer, with tile baths, roofs and porches. They cost from $3,500 to $5,000 apiece and will rent for an average of $18 per month.

Nicolas Cotton Mills and **Opp Cotton Mills,** Opp, Ala., are erecting a modern office building, of concrete and brick. It will be air-conditioned.

Narragansett Mills, Fall River, Mass., has been granted a $40,000 RFC loan to permit resumption of operations after 10 years of idleness. Yarns for defense purposes will be made.

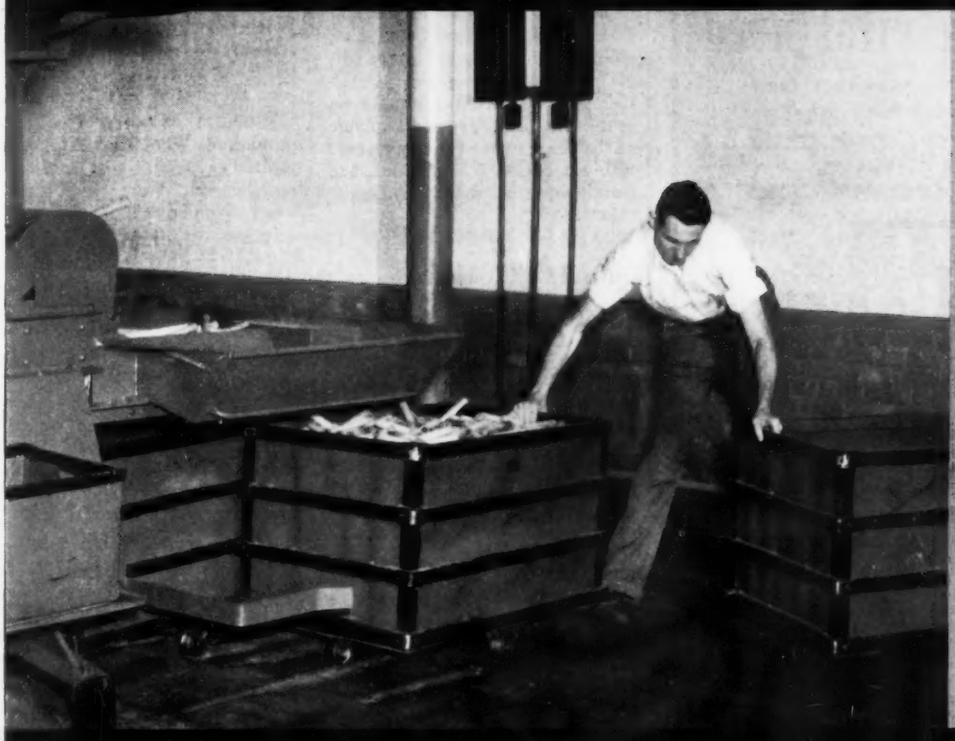
New Bedford, Mass.—A large manufacturing organization, unidentified, has made an offer for the former Taber Mill plant, and it is intimated that about 900 men will be employed in production, with an annual payroll of about $1,000,000. The Grinnell Realty & Warehouse Corp. is owner of the mill.

New England Fabric Co., Middletown, Conn., has awarded contract to Charles E. Richter, Middletown, for plant additions on South Main street. Plans by

BARBER-COLMAN SYSTEM OF SPOOLING AND WARPING

EMPTY BOBBINS HANDLED EFFICIENTLY

Sorting Table and Bobbin Trucks Save Time and Effort



Empty and rejected bobbins are delivered by a conveyor to the sorting table, where the spooler girl can pick out tailings and strips. Empties are dropped into a truck by opening the hinged side of the table. Trucks are easily and quickly switched, as shown in the lower picture. These details help to get more work done in less time, and with a minimum of effort.

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Insure Your Earnings . . . Protect All!

ACCIDENT POLICY PAYS		SICKNESS POLICY PAYS	
ACCIDENTAL DEATH	WEEKLY DISABILITY		
$5,000-$10,000	$25.00-$50.00	$25.00 Per Week for Confining Sickness	$10.00 Per Week for Non-confining
Estimated Annual Cost $15.00		Estimated Annual Cost $20.00	

PAYS WHILE YOU ARE LAID UP
PAYS FROM THE FIRST DAY OF DISABILITY
47 YEARS OF UNFAILING SERVICE

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TEXTILE MILL NEWS

Towner & Lamb specify two brick mill additions 20 x 90 ft. and 35 x 65 ft., each one-story high.

Newmarket (N. H.) **Mfg. Co.'s** old weave shed is being demolished by the Moury Co. of Providence, R. I., to salvage building materials. For many years, the weave shed was one of the largest buildings of its kind in the world.

Pacific Mills, Lawrence, Mass., has placed on the market its textile property in Dover, N. H., including water rights. Buildings total 692,049 sq. ft. floor space.

Powdrell & Alexander, New York, report net profit of $128,052 for first half of 1941, compared with $34,997 for similar period in 1940.

Springs Cotton Mills, Fort Mill, S. C., plan to erect 12 additional brick dwellings for operatives. Company has recently completed more than 100 new homes for operatives needed since the local unit has been enlarged.

Randolph Mills, Inc., Franklinville, N. C., is building a large addition to Mill No. 2.

West Point (Ga.) Mfg. Co. is planning an addition to its plant at West Point with 70,000 sq. ft. of floor space. The company has let general contract to Batson-Cook Co., West Point, for one-story addition to its Langdale (Ala.) Mill, to be used for warehouse service. Cost reported about $25,000, with equipment. Robert & Co., Atlanta, Ga., are engineers of both constructions.

Wool Mill News

American Woolen Co., Inc., Andover, Mass., is building a storehouse-dyehouse unit at Dover-Foxcroft, Me. Arthur N. Olive, Boston, Mass., has the general contract.

E. A. Baxter Co., Watertown, Mass., manufacturers of woolen tweeds, has purchased the New Dam Mill from the city of Somersworth, N. H., which acquired the property through a tax sale.

Botany Worsted Mills, Inc., Passaic, N. J., are reported to have negotiations under way for purchase of tract of over 75 acres of land on highway between Aberdeen and Southern Pines, N. C., as site for new mill. Net profit for the first six months of 1940 was $501,701 compared with $9,387 for similar period in 1940.

Collins & Aikman of Canada, Ltd., Farnham, Que., plan one-story addition, 32 x 400 ft. Cost estimated close to $140,000, with equipment. J. M. Robertson, Montreal, Que., is architect.

Dartmouth Woolen Mills, Inc., Claremont, N. H., is renovating its plant on Lafayette Street. Harty Blaney Construction Co., Boston, Mass., has the general contract.

Dominion Woolens & Worsteds, Ltd., Hespeler, Ont., have work under way on extensions and improvements in local Hespeler Mill, for which general contract was awarded recently to Ball Brothers, Ltd., Hespeler. Cost reported close to $85,000.

Dunhill Woolen Co., Los Angeles, Calif., is the firm name under which B. Black & Sons (Simon Black, vice-president; and Jack Black, treasurer), have obtained a certificate to conduct business at 548 South Los Angeles street, Los Angeles, Calif.

Fraser Products Co., Alpena, Mich., manufacturer of woolen blankets, overcoatings, etc., has taken over local mill of Alpena Woolen Mills, operating in conjunction with present mill at Alpena on Government contracts.

French Worsted Co., Woonsocket, R. I., has let contract to **Enterprise Bldg. Co.,** Woonsocket, for a fourth story addition to its plant on Hamlet Ave. Walter F. Fontaine, Inc., architects, drew the plans.

Gordon Woolen Co. has purchased Woolcraft Mfg. Co. property on Ash street, in Newport, N. H., from the Homestead Woolen Co.

Knox Woolen Co. plans to construct a 100 ft. addition to its plant in Rockland, Me., to increase spinning, weaving and shipping facilities. The addition will be three stories high and include a sprinkler system.

Lowell (Mass.) **Woolen Mills, Inc.,** have been organized with capital of $50,000, to operate a local mill. Reginald C. Swan, Swanzey, N. H., is president and treasurer.

Merrimac Hat Corp., Amesbury, Mass., is building a plant at Greenville, Ala.

Talbot Worsted Mills Co., Bristol, Pa., has leased from A. M. Greenfield & Co., buildings 3 and 3A of the Middishade Block, 30th and Reed Sts., Philadelphia.

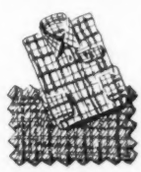
Theresa Woolen Co., Los Angeles, Calif., is the firm name under which Martin Cutler, J. J. Greeble and Hedley Chapman have obtained a certificate to conduct business at 122 East Seventh St., Los Angeles.

A REPORT

ON HERCULES PINE OILS

HERCULES PINE OILS, when made soluble, have become so useful in modern wet processing of textiles that your orders to us have grown by leaps and bounds. Although we are operating 24 hours a day, 365 days a year, with greatly expanded capacity, we are still unable to meet the greatly increased demand for pine oil.

Many manufacturers using YARMOR* pine oils to meet defense production requirements appreciate more than ever the *speed* and *thoroughness* with which pine oils wet out, penetrate the fibers, loosen dirt and grease, and hold them in suspension for clear rinsing. For example, Hercules' development of YARMOR 302-W has enabled woolen manufacturers to cut fulling operation as much as 30 percent—vital in the emergency production of millions of yards of O. D. overcoating and blanketing. And that's only part of the story: This new product is now destined for an important role in wet processing of all textiles.



From continuous research plus experience born of defense needs, there is every reason to believe that the use of YARMOR 302 and YARMOR 302-W will be more widespread than ever when normal business returns. We hope that soon we can handle the additional volume from old customers and at the same time welcome the new customers whose insistent inquiries prove what a solid place YARMOR 302 and YARMOR 302-W have won in the estimation of textile operators.

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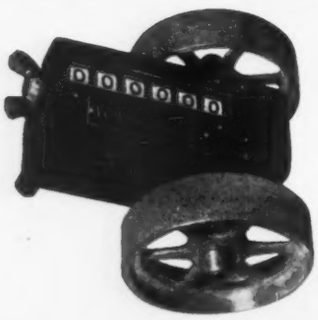

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Rayon & Silk Mill News

Acme Rayon Co., Cleveland, Ohio, shut down for three years, is to be started up again as National Rayon Corp.

American Enka Corp., Enka, N. C., has completed a one and one-half mile dike around the plant which will prevent a repetition of such a flood as inundated the plant in August, 1940, doing damage estimated at more than $1,000,000.

Atlantic Rayon Corp., Providence, R. I., reports net loss for first half of 1941 of $12,855 compared with net loss of $5,977 for first half of 1940.

Bonita Ribbon Mills, Brewton, Ala., has completed an addition that cost $23,000. Additional machinery is being installed.

Britton Mfg. Co., New Britain, Conn., has been organized with capital of $50,000, to manufacture cotton and rayon goods, etc. Incorporators include Irving L. Levine, Hartford, Conn.; and Joseph W. Ress, West Hartford, Conn.

Canadian Industries, Ltd., Kingston, Ontario, will have its Nylon plant in operation next spring with a capacity of 600,000 lb. annually.

Champlain Spinners, Inc., Whitehall, N. Y., have converted their mill for spun Nylon yarn production on the silk system, and will maintain operations for this manufacture for an indefinite period.

Courtaulds (Canada), Ltd., Cornwall, Ont., plans large addition to rayon mill on tract of over 75 acres of land on Kings Highway No. 2, consisting of several one-story units, reported to cost over $500,000, with machinery.

Duplan Corp., New York, N. Y., has purchased a large quantity of throwing machinery from the Laros Silk Co., Inc., Bethlehem, Pa., and will continue to operate it in local mill of that company, until it can later be transferred to one or more of Duplan's Pennsylvania and southern mills for increased operations. Company name has been changed from former Duplan Silk Corp.

E. I. duPont deNemours & Co., Inc., Wilmington, Del., have begun preliminary operations at new Nylon mill at Martinsville, Va., in course of construction for a number of months. The new mill is said to represent an investment of close to $12,000,000. William T. Wood is to be superintendent.

Kingsboro Mills, McMinnville, Tenn., which have leased the old Menzies Shoe Co. building, has started four looms on rayon fabrics which another department of the business will cut and sew into garments. By first of year 34 looms will be in operation.

L. & L. Textiles, Ltd., Toronto, Canada, has removed to a new plant at Magog, Quebec.

Laros Textiles, Inc., Bethlehem, Pa., have begun an expansion and improvement program at local three-story mill, to include the installation of additional looms and other equipment for increased capacity.

Leach Textiles, Ltd., Huntingdon, Que., have begun superstructure for one-story addition, 90 x 220 ft., for which general contract was let to McNair Co., Huntingdon. Cost over $85,000, with equipment.

Marian Mills, Inc., Allentown, Pa., has been formed by Herman Ganz, president, to carry on the business of Marian Fabrics, of Allentown, and Marian Silk Mills of Northampton, Pa.

Morganton, N. C.—C. H. Ross, treasurer and manager, Ross Fabrics, Inc., with local mill on Meeting St., is organizing a new company to construct and operate a rayon weaving mill. Site has been acquired and work will begin at once on one-story building. Cost reported over $40,000, with equipment.

New England Fabric Co., Inc., Middletown, Conn., has begun two one-story mill additions, for which general contract was awarded to C. E. Richter, Middletown. Estimated to cost about $35,000, with equipment.

Paulton Silk Co., Berwick, Pa., is making a complete air-conditioning installation. The plant will shortly modernize its productive equipment through all departments.

Steuben Silk Mills, Andover, N. Y., will soon start manufacture of rayon and silk goods in the old Andover High School Building at Andover, N. Y., leased by them. The personnel of the new mill includes F. V. Conrad, E. J. Allen and B. L. Leibenguth.

Tennessee-Eastman Corp., Kingsport, Tenn., will defer erection of proposed mill addition (previously reported) owing to inability to secure priority rating for structural steel and other required building materials.

Twentieth Century Silk Corp., Bethlehem, Pa., silk throwsters for 25 years, are retiring from business and are offering their equipment to individual buyers at private sale.

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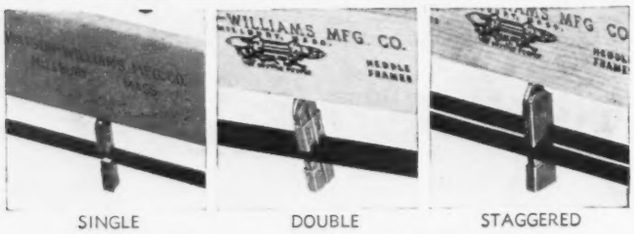

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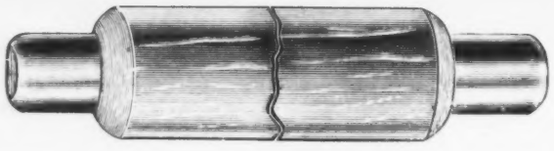

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Knitting Mill News

Bradley Knitting Co., Delavan, Wis., Thomas F. Millane, referee in bankruptcy, on Sept. 11 authorized the payment of a 100% dividend to general creditors. Mr. Millane announced the sale of the firm's Milwaukee plant to Dora Samuels, secretary of a Chicago auctioneering firm, for $37,500.

Chernin Knitting Mills, 2216 East First St., Los Angeles, Calif., have been organized by Jacob Chernin and associates, to operate a local mill.

Dorset Knitting Co., Needham, Mass., will be sold by Caroline E. Gerstner as receiver, according to court order.

Excelsior Knitting Co., Union, S. C., has awarded contract to Daniel Construction Co., Anderson, S. C., for a four-story addition. The new building, with its machinery, is expected to represent an investment of $75,000.

Fairy Silk Mills, Shillington, Pa., in receivership since 1935, has passed into new hands with Judge Forrest R. Shanaman, Reading, approving a reorganization plan. Under the court's decree, Earl S. Jenckes, receiver, has been authorized to deliver possession of the plant to a committee of three men, George D. Snyder, Mahlon S. Strouse and Herbert L. Parsons.

Julius Kayser & Co., New York, reports net profit of $500,212, for the fiscal year ended June 30, 1941, compared with $127,035 for the previous fiscal year. Net sales were $14,884,321.

Laconia, N. H.—E. G. B. Riley of The Weirs, N. H., has acquired the former H. H. Wood & Co. hosiery mill here at auction for $20,000. It is understood that the plant is in shape to start operations, and that the purchaser represents the estate of the former general manager, the late C. G. St. Clair.

Lebanon (Pa.) **Knitting Mills** have leased the second floor of the Coldren Knitting Mill building on Columbia St., Schuylkill Haven, Pa. Heads of the firm are Milton and Sanford Koenigsburg.

Lovknit Mfg. Co., Inc., Greenville, Tex., has been organized with capital of $40,000, to operate a local knitting mill. Rufus B. Love, Greenville, is head.

Mohnton, Pa.—A hosiery mill with dye house, warehouse and other buildings occupying nearly three acres of land at Mohnton, have been sold by the Sheriff's court in Reading for $10. Same were offered as the property of Tru-Tex Hosiery Mills, and Smith & Diamond. Purchaser was George Eves, attorney for the mortgagee.

Overlook Knitting Mill, Marion, N. C., newly established, will have 25 machines for manufacture of half hose.

Platzner Knitting Mills, Cleveland, Ohio, have taken over a four-story building at Detroit and Vermont Aves., N. W., about 45,000 sq. ft. of floor space, under lease with option to purchase. Company will remove present mill to new location and increase capacity.

Ragan Knitting Co., Inc., Thomasville, N. C., has begun two-story addition for warehouse. Erection will be carried out by day labor. Cost close to $30,000, with equipment.

Southland Hosiery Mills, Inc., Greensboro, N. C., organized with capital of $100,000 (previously reported) will be identified with local Samet Hosiery Mill, East Sycamore St. Theodore Samet and F. K. Wilkins, heads of latter company, will be officials of the new organization.

Processing Plant News

American Finishing Co., Memphis, Tenn., plans one-story addition, which will cost about $45,000.

Apponaug (R. I.) **Co.** reports for fiscal year ended June 30, 1941, a net loss of $91,884, compared with net profit of $16,102 for previous 12-month.

Arnold Print Works, North Adams, Mass., had a net profit of $750,283 after depreciation and charges for the year ended June 30, 1941, against a net of $450,241 the year previous. President S. M. Jones pointed out that labor costs increased 21% and gray goods costs about 75% during the year.

Cocheco Mfg. Co., East Rochester, N. H., has constructed an addition to its dye house.

Continental Textile Printing Corp., Middletown, Conn., which purchased the Rockfall Woolen Co., will start operations in October. Alterations to the plant have been in progress with Oscar E. Larson, Middletown, as general contractor. Plans were drawn by Carl B. Segerberg, Middletown. Arnold Eddy is general manager.

Edgewater Dyeing & Finishing Co., Philadelphia, Pa., has begun two-story addition to mill, 80 x 105 ft., to be used for warehouse. Construction contract was awarded to Leslie E. Bender, Philadelphia.